



भारत सरकार  
Government of India  
विद्युत मंत्रालय  
Ministry of Power  
केंद्रीय विद्युत प्राधिकरण  
Central Electricity Authority  
जल विद्युत अभियांत्रिकी व प्रौद्योगिकी विकास एवं नवीनीकरण व आधुनिकीकरण प्रभाग  
Hydro Engineering & Technology Development and Renovation & Modernization  
Division

## जल विद्युत परियोजनाओं का नवीनीकरण एवं आधुनिकीकरण अवधि 2022-27 व 2027-32 का कार्यक्रम तथा यथास्थिति



### Renovation & Modernisation of Hydro Power Stations

Status/Programme for the Period 2022-27 & 2027-32

### QUARTERLY PROGRESS REPORT

(April-June, 2026)

(1<sup>st</sup> Quarter of 2026-27)

## **C O N T E N T S**

| <b>S. No.</b>                                                            | <b>Particulars</b>                                                                                                                 | <b>Page No.(s)</b> |
|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| 1.                                                                       | Index of Schemes                                                                                                                   | I-3 to I-8         |
| 2.                                                                       | Background & Plan-wise Summary                                                                                                     | B-1 to B-4         |
| <b>Completion Programmed during 2022-27</b>                              |                                                                                                                                    |                    |
| 3.                                                                       | Year-wise & State-wise Summary of Original & Anticipated Completion Schedule of R&M Schemes at Hydro Power Stations During 2022-27 | S-1 to S-2         |
| <b>State-wise Status of R&amp;M Schemes during 2022-27 &amp; 2027-32</b> |                                                                                                                                    |                    |
| 4.                                                                       | State-wise Status of R&M Schemes (During 2022-27)                                                                                  | 1-23               |
| 5.                                                                       | State-wise Status of R&M Schemes (During 2027-32)                                                                                  | 25-65              |
| <b>ANNEXURES</b>                                                         |                                                                                                                                    |                    |
| I                                                                        | State-wise List of Hydro RMU&LE Schemes completed upto the VIII Plan                                                               | A-1                |
| II                                                                       | State-wise List of Hydro RMU&LE Schemes completed in the IX Plan                                                                   | A-2 to A-3         |
| III                                                                      | State-wise List of Hydro RMU&LE Schemes completed in the X Plan                                                                    | A-4 to A- 6        |
| IV                                                                       | State-wise List of Hydro RMU&LE Schemes completed during the XI Plan                                                               | A-7 to A-8         |
| V                                                                        | State-wise List of Hydro RMU&LE Schemes completed during the XII Plan                                                              | A-9 to A-10        |
| VI                                                                       | State-wise List of Hydro RMU&LE Schemes completed during 2017-2022                                                                 | A-11               |
| VII                                                                      | State-wise List of Hydro RMU&LE Schemes programmed for completion during 2022-27                                                   | A-12               |
| VIII                                                                     | State-wise List of Hydro RMU&LE Schemes programmed for completion during 2027-32                                                   | A-13 to A-14       |
| <b>Abbreviations</b>                                                     |                                                                                                                                    | A-15               |

# **Index of Schemes**

# Renovation & Modernisation (R&M) Schemes of Hydro Power Stations

Programme for the period 2022-27 & 2027-32

## INDEX OF SCHEMES

Programmed for completion during 2022-27

| S. No.                      | Name of Scheme in the Sector |                                        | Agency  | Page No. |
|-----------------------------|------------------------------|----------------------------------------|---------|----------|
|                             | Central                      | State                                  |         |          |
| <b>Northern Region</b>      |                              |                                        |         |          |
| <b>I.</b>                   | <b>Himachal Pradesh</b>      |                                        |         |          |
| 1.                          | -                            | Bhabha Power House                     | HPSEBL  | 1        |
| 2.                          | Bhakra LB                    | -                                      | BBMB    | 2        |
| <b>II.</b>                  | <b>Uttarakhand</b>           |                                        |         |          |
| 3.                          | -                            | Tiloth (Maneri Bhali-I)                | UJVNL   | 3        |
| 4.                          | -                            | Dhalipur                               | UJVNL   | 3-4      |
| 5.                          | -                            | Dhakrani                               | UJVNL   | 4        |
| <b>III.</b>                 | <b>Uttar Pradesh</b>         |                                        |         |          |
| 6.                          | -                            | Rihand                                 | UPJVNL  | 5        |
| 7.                          | -                            | Obra                                   | UPJVNL  | 5-6      |
| <b>Southern Region</b>      |                              |                                        |         |          |
| <b>IV.</b>                  | <b>Telangana</b>             |                                        |         |          |
| 8.                          | -                            | Nagarjuna Sagar Phase-II works         | TSGENCO | 7-8      |
| 9.                          | -                            | Nagarjuna Sagar Left Canal Power House | TSGENCO | 8        |
| <b>V.</b>                   | <b>Tamil Nadu</b>            |                                        |         |          |
| 10.                         | -                            | Moyar PH                               | TNPGCL  | 9        |
| 11.                         | -                            | Kodayar PH-I                           | TNPGCL  | 10       |
| <b>VI.</b>                  | <b>Karnataka</b>             |                                        |         |          |
| 12.                         | -                            | Munirabad Dam Power House              | KPCL    | 11       |
| 13.                         | -                            | Linganamakki Dam Power House (LDPH)    | KPCL    | 11       |
| 14.                         | -                            | Gerusoppa Dam Power House              | KPCL    | 11       |
| 15.                         | -                            | Shivasamudram                          | KPCL    | 12-13    |
| 16.                         | -                            | Sharavathy Generating Station          | KPCL    | 13-14    |
| <b>VII.</b>                 | <b>Kerala</b>                |                                        |         |          |
| 17.                         | -                            | Kuttiyadi                              | KSEB    | 15-16    |
| <b>Eastern Region</b>       |                              |                                        |         |          |
| <b>VIII.</b>                | <b>Odisha</b>                |                                        |         |          |
| 18.                         | -                            | Balimela                               | OHPC    | 17-18    |
| <b>IX.</b>                  | <b>Jharkhand</b>             |                                        |         |          |
| 19.                         | Panchet, U-1                 | -                                      | DVC     | 19       |
| <b>North Eastern Region</b> |                              |                                        |         |          |
| <b>X.</b>                   | <b>Assam</b>                 |                                        |         |          |
| 20.                         | Kopili Power Station         | -                                      | NEEPCO  | 20       |

|            |                        |                             |        |       |
|------------|------------------------|-----------------------------|--------|-------|
| 21.        | Khandong Power Station | -                           | NEEPCO | 20-21 |
| <b>XI.</b> | <b>Meghalaya</b>       |                             |        |       |
| 22.        | -                      | Umiam St.III<br>Kyrdemkulai | MePGCL | 22-23 |

## Programmed for completion during 2027-32

| S. No.               | Name of Scheme in the Sector    |                                 | Agency | Page No. |
|----------------------|---------------------------------|---------------------------------|--------|----------|
|                      | Central                         | State                           |        |          |
| Northern Region      |                                 |                                 |        |          |
| I. Jammu & Kashmir   |                                 |                                 |        |          |
| 1.                   | Salal Stage-I<br>(Unit 1,2 & 3) | -                               | NHPC   | 25       |
| 2.                   | Salal Stage-II<br>(Unit 4,5 &6) | -                               | NHPC   | 25       |
| II. Himachal Pradesh |                                 |                                 |        |          |
| 3.                   | Pong PH                         | -                               | BBMB   | 26-27    |
| 4.                   | -                               | Giri                            | HPSEBL | 27       |
| 5.                   | Dehar                           | -                               | BBMB   | 28       |
| 6.                   | Chamera-I                       | -                               | NHPC   | 28       |
| III. Punjab          |                                 |                                 |        |          |
| 7.                   | -                               | UBDC St.I & St.II<br>HEP        | PSPCL  | 29       |
| 8.                   | -                               | Anandpur Sahib<br>Hydel Project | PSPCL  | 30       |
| 9.                   | -                               | Mukerian HEP                    | PSPCL  | 30-31    |
| 10.                  | -                               | Shanan HEP                      | PSPCL  | 31       |
| IV. Uttarakhand      |                                 |                                 |        |          |
| 11.                  | -                               | Chilla                          | UJVNL  | 32-33    |
| 12.                  | -                               | Kulhal                          | UJVNL  | 33-34    |
| 13.                  | -                               | Ramganga                        | UJVNL  | 34       |
| 14.                  | Tanakpur                        | -                               | NHPC   | 35       |
| 15.                  | -                               | Chibro                          | UJVNL  |          |
| 16.                  | -                               | Khodri                          | UJVNL  |          |
| V. Rajasthan         |                                 |                                 |        |          |
| 17.                  | -                               | Rana Pratap Sagar               | RRVUNL | 36       |
| 18.                  | -                               | Jawahar Sagar                   | RRVUNL | 37       |
| Western Region       |                                 |                                 |        |          |
| VI. Madhya Pradesh   |                                 |                                 |        |          |
| 19.                  | -                               | Gandhi Sagar                    | MPPGCL | 38       |
| 20.                  | -                               | Bargi                           | MPPGCL | 38-39    |
| 21.                  | -                               | Pench                           | MPPGCL | 39       |
| 22.                  | -                               | Bansagar Tons-I                 | MPPGCL | 39       |
| VII. Gujrat          |                                 |                                 |        |          |
| 23.                  |                                 | Kadana                          | GSECL  | 40-41    |
| VIII. Maharashtra    |                                 |                                 |        |          |
| 24.                  | -                               | Vaitarna                        | MSPGCL | 42       |
| 25.                  | -                               | Koyna Dam foot<br>(Right Bank)  | MSPGCL | 42       |
| 26.                  | -                               | Koyna St-3                      | MSPGCL | 42       |

|                   |   |                                        |         |       |
|-------------------|---|----------------------------------------|---------|-------|
| 27.               | - | Tillari                                | MSPGCL  | 42    |
| 28.               | - | Bhira Tail Race                        | MSPGCL  | 42    |
| Southern Region   |   |                                        |         |       |
| IX. Telangana     |   |                                        |         |       |
| 29                | - | Pochampad Hydro Power Station          | TSGENCO | 43-44 |
| X. Andhra Pradesh |   |                                        |         |       |
| 30.               |   | Upper Sileru Power House               | APGENCO | 45-46 |
| 31.               |   | Nagarjunasagar Right Canal Power House | APGENCO | 46-48 |
| 32.               |   | Srisaillam Right Bank Power House      | APGENCO | 48-49 |
| 33.               | - | Tungabhadra HE (J) Dam                 | APGENCO | 49    |
| 34.               | - | Hampi Canal PH                         | APGENCO | 49    |
| 35.               | - | Lower Sileru                           | APGENCO | 50    |
| 36.               | - | Machkund St.I & St.II                  | APGENCO | 50-51 |
| XI. Tamil Nadu    |   |                                        |         |       |
| 37.               | - | Kodayar PH-II                          | TNPGL   | 52-55 |
| 38.               | - | Kundah-I                               |         |       |
| 39.               | - | Kundah-II                              |         |       |
| 40.               | - | Kundah-III                             |         |       |
| 41.               | - | Kundah-IV                              |         |       |
| 42.               | - | Kundah-V                               |         |       |
| 43.               | - | Mettur Tunnel                          |         |       |
| 44.               | - | Sarkarpathy                            |         |       |
| 45.               | - | Sholayar-II                            |         |       |
| 46.               | - | Suruliyar                              |         |       |
| 47.               | - | Kadamparai PH                          |         |       |
| 48.               | - | Aliyar                                 |         |       |
| 49.               | - | Lower Mettur-I                         |         |       |
| 50.               | - | Lower Mettur-II                        |         |       |
| 51.               | - | Lower Mettur-III                       |         |       |
| 52.               | - | Lower Mettur-IV                        |         |       |
| XII. Karnataka    |   |                                        |         |       |
| 53.               | - | Nagjhari, U-1 to U-3                   | KPCL    | 56-57 |
| 54.               | - | Kadra Dam Power House                  | KPCL    | 57    |
| 55.               | - | Kodasalli Dam Power House              | KPCL    | 57    |

|                             |                    |                                                        |        |       |
|-----------------------------|--------------------|--------------------------------------------------------|--------|-------|
| 56.                         | -                  | Supa Dam Power House                                   | KPCL   | 57-58 |
| 57.                         | -                  | Varahi Underground Power House                         | KPCL   | 58    |
| 58.                         | -                  | Linganamakki Dam Power House                           | KPCL   | 58    |
| <b>XIII.</b>                | <b>Kerala</b>      |                                                        |        |       |
| 59.                         | -                  | Idukki 1 <sup>st</sup> stage and 2 <sup>nd</sup> Stage | KSEB   | 59    |
| 60.                         | -                  | Idamalayar                                             | KSEB   | 59    |
| 61.                         | -                  | Sabarigiri Unit 1,2, 3 &5)                             | KSEB   | 60    |
| <b>Eastern Region</b>       |                    |                                                        |        |       |
| <b>XIV.</b>                 | <b>Jharkhand</b>   |                                                        |        |       |
| 62.                         | -                  | Subernrekha                                            | JUUNL  | 61    |
| <b>XV.</b>                  | <b>West Bengal</b> |                                                        |        |       |
| 63.                         | Maithon, U1&3      | -                                                      | DVC    | 62    |
| <b>North Eastern Region</b> |                    |                                                        |        |       |
| <b>XVI.</b>                 | <b>Meghalaya</b>   |                                                        |        |       |
| 64.                         | -                  | Umiam-Umtru Stage-IV                                   | MePGCL | 63    |
| <b>XVII.</b>                | <b>Manipur</b>     |                                                        |        |       |
| 65.                         | Loktak             | -                                                      | NHPC   | 64-65 |

**Background  
&  
Plan-wise Summary**

## **RENOVATION, MODERNISATION & UPRATING OF HYDRO ELECTRIC POWER PROJECTS**

### **BACKGROUND**

Renovation & Modernisation (R&M) of the existing old Hydro Electric Projects is considered a cost effective option for retaining the operational capacity at end of its useful life by undertaking requisite R&M works to extend its operational life and also utilizing this opportunity for having uprated capacity, if feasible, by exploring the technological advancement. These type of works are also undertaken during the useful life of plant/ equipment for improvement in operational efficiency, reliability, security and on obsolescence of technology.

Recognizing the benefits of R&M of hydroelectric power projects, Govt. of India set up a National Committee in 1987 and a Standing Committee in 1998 and thereafter had identified the projects/ schemes to be taken up for implementation under R&M. The National Perspective Plan document for R&M of hydroelectric power projects in the country was also prepared in CEA during the year 2000. The status of various projects/ schemes already identified for implementation/ completion till the end of XI Plan, i.e. March, 2012 had been incorporated in the National Perspective Plan.

### **Achievements during VIII, IX, X, XI, XII Plan and Period 2017-22**

The R&M works at 118 (26 in Central and 92 in State Sector) hydro power plants (13 up to the VIII Plan, 20 in the IX Plan, 32 in the X Plan, 18 in the XI Plan, 21 in the XII Plan & 14 during 2017-22) with an aggregate installed capacity of 22634.7 MW had been completed by the end of the year 2017-22 and total a benefit of 4139.56 MW through Life Extension (LE), Uprating (U) and Renovation had been accrued. The State-wise list of Hydro RM&U Schemes completed during VIII, IX, X, XI XII Plans and 2017-22 are given at Annex-I, II, III, IV,V and VI respectively.

### **Programme during the period 2022-27**

The Renovation, Modernization, Uprating and Life Extension works at 22 Hydro Electric Plants (HEPs) with an aggregate installed capacity of 4387.55 MW is programmed for completion during the year 2022-27. This will result in benefits in terms of life extension for 11 HEPs of aggregate 2376.75 MW capacity, 6 HEPs of aggregate capacity of 811 MW having both life extension and increase in aggregate installed capacity to 936.5 MW (i.e. capacity addition of 125.5 MW by uprating) and balance 5 HEPs having aggregate installed capacity of 1199.8 MW seeing benefits in terms of enhancement in efficiency, operation reliability, grid security and ease of operation. As such, the revised aggregate installed capacity after completion of RMU&LE works of these 22 projects would be 4513.05 MW. The State-wise list of hydro R&M schemes expected for completion during the year 2022-27 is given at Annex-VII.

Out of these 22 Schemes, Fourteen (14) Schemes with an aggregate installed capacity of about 2679.55 MW have been completed till June 2026, and which has resulted in benefit including Life Extension of projects with aggregate installed capacity of 1479.75 MW and Uprating of 90 MW.

### **Programme during the period 2027-32**

The Renovation, Modernization, Uprating and Life Extension works at 65 Hydro Electric Plants (HEPs) with an aggregate installed capacity of 11556.35 MW is programmed for completion during 2027-32. This will result in benefits in terms of life extension for 45 HEPs of aggregate 8058.55 MW capacity, 10 HEPs of aggregate capacity of 1697 MW having both life extension and increase in aggregate installed capacity to 1841.33 MW (i.e. uprating of 144.33 MW) and balance 10 HEPs having aggregate installed capacity of 1800.8 MW seeing benefits in terms of enhancement in efficiency, operation reliability, grid security and ease of operation. As such, the revised aggregate installed capacity after completion of RMU&LE works of these 65 projects would be 11700.68 MW. State-wise list of hydro R&M schemes expected for completion during the year 2027-32 is given at Annex-VIII

## जल विद्युत परियोजनाओं का नवीनीकरण, आधुनिकीकरण और उन्नयन

### पृष्ठभूमि

संसाधनों के इष्टतम उपयोग, कुशल संचालन, बेहतर उपलब्धता सुनिश्चित करने के साथ-साथ देश में क्षमता वृद्धि (उन्नयन) करने के लिए मौजूदा पूर्वस्थापित जल विद्युत परियोजनाओं का नवीनीकरण और आधुनिकीकरण, तथा उन्नयन और जीवन विस्तार (आरएमयू एंड एलई) को एक लागत प्रभावी विकल्प माना जाता है।

जलविद्युत परियोजनाओं के नवीनीकरण और आधुनिकीकरण के लाभों को समझते हुए, भारत सरकार ने 1987 में एक राष्ट्रीय समिति और 1998 में एक स्थायी समिति का गठन किया था। इसके उपरांत आर एंड एम के तहत कार्यान्वयन आरंभ करने के लिए परियोजनाओं/योजनाओं को चिह्नित किया था। वर्ष 2000 के दौरान केंद्रीय विद्युत प्राधिकरण में देश में जलविद्युत परियोजनाओं के नवीनीकरण और आधुनिकीकरण के लिए राष्ट्रीय परिप्रेक्ष्य योजना दस्तावेज भी तैयार किया गया था। ग्यारहवीं योजना के अंत, अर्थात् मार्च, 2012 तक कार्यान्वयन/पूरी करने के लिए पूर्व में चिह्नित विभिन्न परियोजनाओं/योजनाओं की स्थिति को राष्ट्रीय परिप्रेक्ष्य योजना में शामिल किया गया था।

### आठवीं योजना से बारहवीं योजना और 2017-2022 अवधि के दौरान उपलब्धियां

12वीं योजना के अंत तक 118 (26 केंद्रीय और 92 राज्य क्षेत्र में) जल विद्युत संयंत्रों (आठवीं योजना तक 13, नौवीं योजना में 20, दसवीं योजना में 32, ग्यारहवीं योजना में 18, बारहवीं योजना में 21, 2017-2022 के दौरान 14) जिनकी कुल स्थापित क्षमता 22634.7 मेगावाट थी में नवीनीकरण और आधुनिकीकरण का कार्य पूरा किया गया था, जिसके फलस्वरूप जीवन विस्तार, उन्नयन और पुनरुद्धार के माध्यम से 4139.56 मेगावाट का लाभ हुआ था। आठवीं, नौवीं, दसवीं, ग्यारहवीं, बारहवीं योजनाओं और 2017-2022 के दौरान पूरी की गई जल विद्युत आरएमयू एंड यू स्कीमों की राज्यवार सूची क्रमशः अनुलग्नक- I, II, III, IV, V और VI में दी गई है।

### 2022-27 की अवधि के दौरान कार्यक्रम

वर्ष 2022-27 के दौरान 4387.55 मेगावाट की कुल स्थापित क्षमता वाले 22 जल विद्युत संयंत्रों (एचईपी) के नवीनीकरण, आधुनिकीकरण, उन्नयन और जीवन विस्तार कार्यों को पूरा करने की योजना है। इसके परिणामस्वरूप कुल 2376.75 मेगावाट क्षमता वाले 11 एचईपी के जीवन विस्तार के संदर्भ में लाभ होंगे, 811 मेगावाट की कुल क्षमता वाले 6 एचईपी के जीवन विस्तार और कुल स्थापित क्षमता में 936.5 मेगावाट की वृद्धि (अर्थात् उन्नयन द्वारा 125.5 मेगावाट की क्षमता वृद्धि) दोनों होंगे और शेष 5 एचईपी जिनकी कुल स्थापित क्षमता 1199.8 मेगावाट है, को दक्षता में वृद्धि, संचालन विश्वसनीयता, ग्रिड सुरक्षा और संचालन में आसानी के संदर्भ में लाभ होगा। इस प्रकार, इन 22 परियोजनाओं के आरएमयू और एलई कार्यों के पूरा होने के बाद संशोधित कुल स्थापित क्षमता 4513.05 मेगावाट होगी। वर्ष 2022-27 के दौरान पूरी होने वाली अपेक्षित जल विद्युत अनुसंधान और रखरखाव योजनाओं की राज्यवार सूची अनुबंध- VII में दी गई है।

इन 22 योजनाओं में से, लगभग 2679.55 मेगावाट की कुल स्थापित क्षमता वाली चौदह (14) योजनाएँ जून 2026 तक पूरी हो चुकी हैं, और इसके परिणामस्वरूप 1479.75 मेगावाट की कुल स्थापित क्षमता वाली परियोजनाओं का जीवन विस्तार और 90 मेगावाट का उन्नयन सहित लाभ हुआ है।

### 2027-32 की अवधि के दौरान कार्यक्रम

11556.35 मेगावाट की कुल स्थापित क्षमता वाले 65 जल विद्युत संयंत्रों (एचईपी) के नवीनीकरण, आधुनिकीकरण, उन्नयन और जीवन विस्तार कार्यों को 2027-32 के दौरान पूरा करने की योजना है। इसके परिणामस्वरूप कुल 8058.55 मेगावाट क्षमता वाले 45 जल विद्युत संयंत्रों के जीवन विस्तार के संदर्भ में लाभ होंगे, कुल 1697 मेगावाट क्षमता वाले 10 जल विद्युत संयंत्रों के जीवन विस्तार और कुल स्थापित क्षमता में 1841.33 मेगावाट (अर्थात् 144.33 मेगावाट का उन्नयन) दोनों में वृद्धि होगी और शेष 10 जल विद्युत संयंत्रों की कुल स्थापित क्षमता 1800.8 मेगावाट होगी, जिन्हें दक्षता, संचालन विश्वसनीयता, ग्रिड सुरक्षा और संचालन में आसानी में वृद्धि के संदर्भ में लाभ दिखाई देंगे। इस प्रकार, इन 65 परियोजनाओं के आरएमयू और एलई कार्यों के पूरा होने के बाद संशोधित कुल स्थापित क्षमता 11700.68 मेगावाट होगी। वर्ष 2027-32 के दौरान पूरी होने वाली अपेक्षित जल विद्युत अनुसंधान एवं रखरखाव योजनाओं की राज्यवार सूची अनुबंध-VIII में दी गई है।

**Summary of R&M of Hydro Electric Projects**  
(As on 30.06.2026)

**I Hydro R&M schemes completed up to 2017-22**

| Sl. No. | Plan Period            | No. of Projects |              |       | Installed Capacity (MW) | Actual Expenditure (Rs. in Crs) | Benefit (MW)                                        |
|---------|------------------------|-----------------|--------------|-------|-------------------------|---------------------------------|-----------------------------------------------------|
|         |                        | Central Sector  | State Sector | Total |                         |                                 |                                                     |
| 1.      | Upto VIII Plan Schemes | 2               | 11           | 13    | 1282.00                 | 127.37                          | 429.00 [39.00(U) + 54.00(LE) + 336.00(Res.)]        |
| 2.      | IX Plan Schemes        | 8               | 12           | 20    | 4892.10                 | 570.16                          | 1093.03 [339.00(U) + 423.00(LE) + 331.03(Res.)]     |
| 3.      | X Plan Schemes         | 5               | 27           | 32    | 4446.60                 | 1029.24                         | 827.73 [122.05(U) + 701.25(LE) + 4.43(Res.)]        |
| 4.      | XI Plan Schemes        | 4               | 14           | 18    | 5841.20                 | 294.84                          | 735 [12 (U) + 708 (LE) + 15 (Res.)]                 |
| 5.      | XII Plan Schemes       | 2               | 19           | 21    | 4149.60                 | 1146.02                         | 549.40 [58 (U) + 476.40 (LE) + 15 (Res.)]           |
| 6.      | 2017-2022              | 5               | 9            | 14    | 2023.2                  | 848.68                          | 505.4 [479.2(LE) + 26.2(U)]                         |
|         | Total                  | 26              | 92           | 118   | 22634.7                 | 4016.31                         | 4139.56 [596.25 (U) + 2841.85 (LE) + 701.46 (Res.)] |

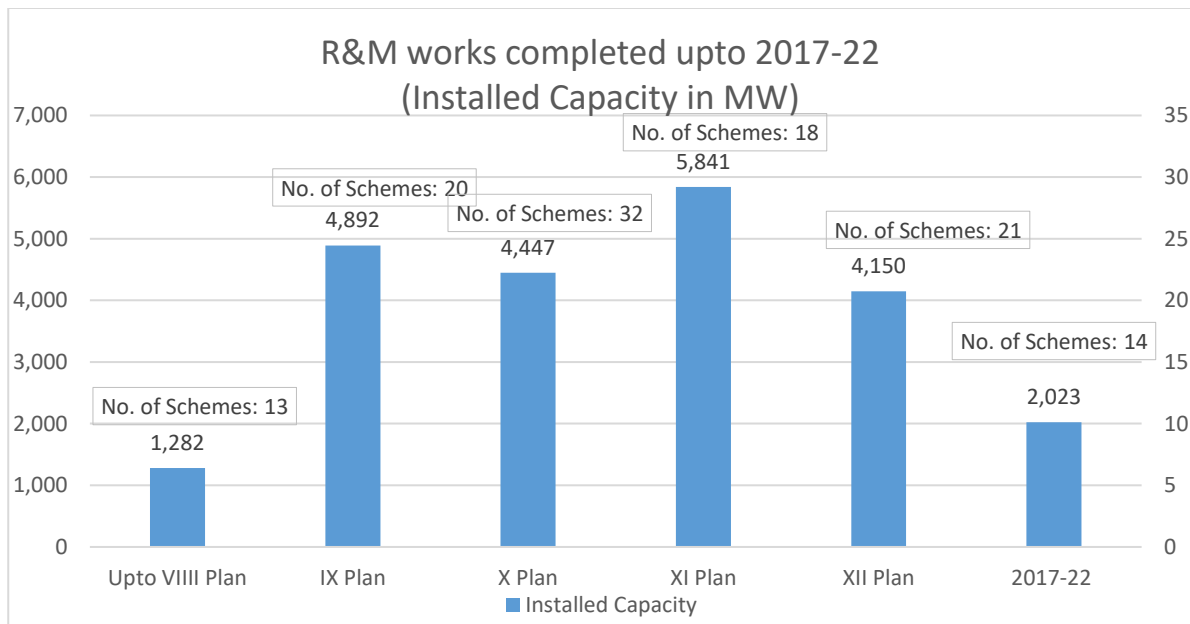
**Abbreviations:**

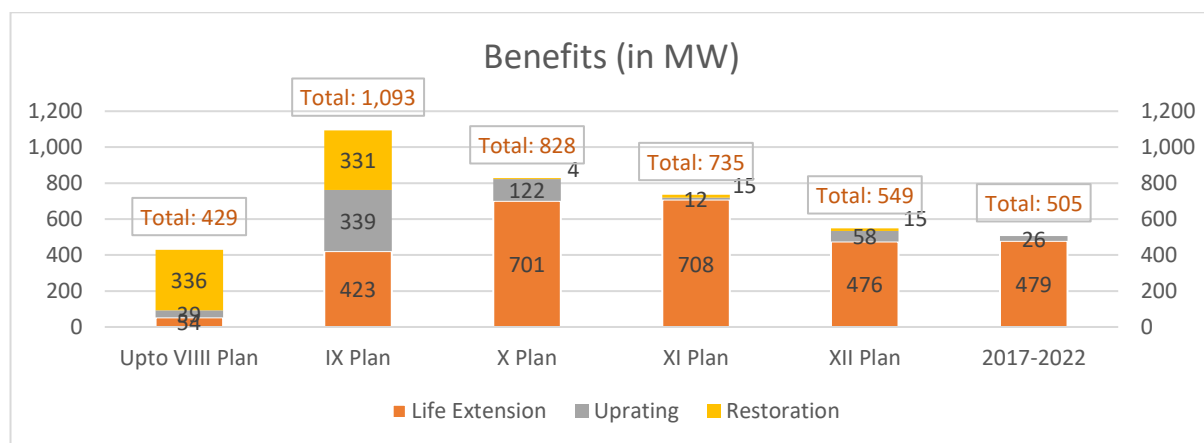
MW – Mega Watt;

Res. – Restoration;

U – Uprating;

LE – Life Extension;





## II Programme of R&M works during 2022-27

| Sl. No. | Category                                      | No. of Projects |              |       | Capacity covered under RMU&LE (MW) | Benefit (MW)                       |
|---------|-----------------------------------------------|-----------------|--------------|-------|------------------------------------|------------------------------------|
|         |                                               | Central Sector  | State Sector | Total |                                    |                                    |
| 1.      | Programmed                                    | 4               | 18           | 22    | 4387.55                            | 3313.25<br>[3187.75(LE)+ 125.5(U)] |
| 2.      | Completed                                     | 3               | 11           | 14    | 2679.55                            | 1569.75<br>[1479.75 (LE)+ 90(U)]   |
| 3.      | Under Implementation                          | 1               | 7            | 8     | 1708.00                            | 1743.50<br>[1708.00(LE)+ 35.5(U)]  |
| 4.      | Under Tendering                               | 0               | 0            | 0     | 0                                  | 0                                  |
| 5.      | Under DPR Preparation/ Finalisation/ Approval | 0               | 0            | 0     | 0                                  | 0                                  |
| 6.      | Under RLA Studies                             | 0               | 0            | 0     | 0                                  | 0                                  |

## III Programme of R&M works during 2027-32

| Sl. No. | Category                                     | No. of Projects |              |       | Capacity covered under RMU&LE (MW) | Benefit (MW)                        |
|---------|----------------------------------------------|-----------------|--------------|-------|------------------------------------|-------------------------------------|
|         |                                              | Central Sector  | State Sector | Total |                                    |                                     |
| 1.      | Programmed                                   | 8               | 57           | 65    | 11556.35                           | 9899.88<br>[9755.55(LE)+ 144.33(U)] |
| 2.      | Under Implementation                         | 1               | 12           | 13    | 2524.8                             | 1096.83<br>[1054(LE) + 42.83(U)]    |
| 3.      | Under Tendering                              | 2               | 5            | 7     | 919.35                             | 883.35<br>[819.35(LE)+ 64(U)]       |
| 4.      | Under DPR Preparation/Finalisation/ Approval | 1               | 11           | 12    | 3284.00                            | 3301.5<br>[3284.00(LE)+ 17.5(U)]    |
| 5.      | Under RLA Studies                            | 4               | 29           | 33    | 4828.20                            | 4618.20<br>[4598.20(LE)+20(U)]      |

**Abbreviations:** MW – Mega Watt; Res. – Restoration; Assessment

U – Upgrading; LE – Life Extension; RLA- Residual Life

**Year-wise & State-wise Summary of  
Original Completion Schedule of  
R&M Schemes at Hydro Power  
Stations  
(During 2022-27)**

**Year-wise & State-wise Summary of Original & Anticipated Completion Schedule of R&M Schemes at Hydro Power Stations during 2022-27**

| <u><b>Year 2022-23</b></u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <u><b>Year 2023-24</b></u>                                                                                                                                                                                                                                                                                                  | <u><b>Year 2024-25</b></u>                                                                                                | <u><b>Year 2025-26</b></u>                                                                                                                                                                                                                          | <u><b>Year 2026-27</b></u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u><b>Himachal Pradesh:</b></u><br>Bhabha Power House, HPSEB, (3x40) =120 MW<br><b>(Completed in 2022-23)</b><br><br><u><b>Uttarakhand:</b></u><br>Tiloth, UJVNL (3x30) =90 MW<br><b>(Completed in 2022-23)</b><br><br><u><b>Uttar Pradesh:</b></u><br>Rihand, UPJVNL (6x50) =300 MW<br><b>(Completed in 2022-23)</b><br><br><u><b>Karnataka:</b></u><br>i) Munirabad Dam Power House, KPCL, (2x9 + 1x10) =28 MW,<br><b>(Completed in 2022-23)</b><br><br>ii) Linganamakki Dam Power House, KPCL (2x27.5) =55 MW<br><b>(Completed in 2022-23)</b><br><br><u><b>Telangana:</b></u><br>i) Nagarjuna Sagar Ph-II, | <u><b>Himachal Pradesh:</b></u><br>Bhakra LB, BBMB, (5x108) =540 MW<br><b>(Completed in 2023-24)</b><br><br><u><b>Uttarakhand:</b></u><br>Dhalipur, UJVNL (3x17) =51 MW<br><b>(Completed in 2023-24)</b><br><br><u><b>Karnataka:</b></u><br>Gerusoppa Dam Power House, KPCL (4x60) =240 MW<br><b>(Completed in 2023-24)</b> | <u><b>Assam:</b></u><br>Kopili Power Station, NEEPCO (4x50)=200 MW<br><b>(Completed in 2024-25)</b><br>(Original 2023-24) | <u><b>Assam:</b></u><br>Khandong Power Station, NEEPCO (2x23)=46 MW<br><b>(Completed in 2025-26)</b><br>(Original 2024-25)<br><br><u><b>Uttar Pradesh:</b></u><br>Obra, UPJVNL (3x33) =99 MW<br><b>(Completed in 2025-26)</b><br>(Original 2024-25) | <u><b>Uttarakhand:</b></u><br>i) Dhakrani, UJVNL, (3x11.25) =33.75 MW,<br><b>(Completed in 2026-27)</b><br>(Original 2020-21, then 2025-26)<br><br><u><b>Odisha:</b></u><br>Balimela, OHPC, (6x60) =360 MW<br><b>(Original 2024-25)</b><br><br><u><b>Meghalaya:</b></u><br>Umiam St.III (Kyrdemkulai), MePGCL (2x30)=60 MW<br><br><u><b>Karnataka:</b></u><br>i) Sharavathy Generating Station, KPCL (10x103.5) =1035 MW<br><br>ii) Shivasamudram, KPCL, (6x3+4x6) =42 MW,<br><b>(Original 2024-25)</b><br><br><u><b>Kerala:</b></u><br>i) Kuttiyadi, KSEB, (3x25) =75 MW<br><b>(Original 2024-25)</b> |

| <u>Year 2022-23</u>                                                                                                                                                                                                             | <u>Year 2023-24</u>           | <u>Year 2024-25</u>           | <u>Year 2025-26</u>           | <u>Year 2026-27</u>                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TSGENCO,<br>(1x110+7x100.8)<br>=815.6 MW<br>(2022-23)<br><b>(Completed in 2022-23)</b><br><br>ii) Nagarjuna<br>Sagar Left Canal<br>Power House,<br>TSGENCO<br>(2x30.6)=61.2<br>MW<br>(2024-25)<br><b>(Completed in 2022-23)</b> |                               |                               |                               | <b><u>Tamil Nadu:</u></b><br>(i)Moyar PH,<br>TNPGCL (3x12)<br>=36 MW<br><b>(Original 2024-25)</b><br><br>(ii)Kodayar PH-I,<br>TNPGCL (1x60)<br>=60 MW<br><b>(Original 2024-25)</b><br><br><b><u>Jharkhand:</u></b><br>Panchet U-1,<br>DVC,<br>(1x40)<br>=40 MW<br><b>(Original 2023-24)</b> |
| <b>1469.8 MW<br/>(7 Schemes)</b>                                                                                                                                                                                                | <b>831 MW<br/>(3 Schemes)</b> | <b>200 MW<br/>(1 Schemes)</b> | <b>145 MW<br/>(2 Schemes)</b> | <b>1741.75 MW<br/>(9 Schemes)</b>                                                                                                                                                                                                                                                           |

**State-wise Status of R&M Schemes  
(During 2022-27)**

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations during 2022-27**

**NORTHERN REGION**

**HIMACHAL PRADESH**

**(Amount in Rs. Crores**

| S. No.                       | Scheme / Category/ Completion Target                                            | Expected Benefit (MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Present Status                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES COMPLETED</b> |                                                                                 |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1.                           | <b>Bhabha Power House, 3x40 MW HPSEBL 1989 T&amp;G - BHEL RM&amp;LE 2022-23</b> | <b>120 (LE)</b><br><br>90.14<br><br>43.01          | <ul style="list-style-type: none"> <li>Rehabilitation of Generator of Unit-1.</li> <li>Replacement of Electro-Hydraulic Transducer (EHT) with handle, Main Distribution Valve (MDV) spool &amp; sleeve assy., Pilot needle &amp; sleeve assy., Duplex filter element only (inner &amp; outer sleeve), Solenoid valve (Size 10) of MIV Hydro Control Panel (HCP), Pilot operating main distributing valve type for MIV HCP, NRV of PP Set, Nozzle Servomotors &amp; Drain Pipe Lines Route of Decompression Valve &amp; Seal Valve of MIV.</li> <li>Replacement of three (3) nos. Digital governors &amp; Static Excitation and Digital AVR systems complete with accessories. Replacement of Unit Control Boards and providing control &amp; monitoring system (DCS based SCADA).</li> <li>Supply of 2 nos. Forged Fabricated Pelton Runners (Spares Without coating) having 21 buckets suitable for single runner turbine with two jets developing 41240 KW (55282 HP) at a rated net head of 887.20 mtr and design discharge of 5.67 cumecs per unit.</li> </ul> | <ul style="list-style-type: none"> <li>Rehabilitation works completed by BHEL and Unit commissioned on 09.03.2018.</li> <li>Works completed.</li> <li>Works awarded to M/s. GE Power India Ltd. on 19.07.2018 and has been completed.</li> <li>The tender has been awarded to M/s.Voith Hydro Pvt. Ltd. on 04.07.2019. One runner installed during March, 2021 and second runner kept as spare.</li> </ul> |

|    |                                                                                                                                  |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2. | <b>Bhakra LB,</b><br>5x108 MW<br>BBMB<br>1985<br>5x90 MW<br>(Original)<br>1960-61<br><br><b>RMU&amp;LE</b><br><br><b>2023-24</b> | <b>540(LE)+<br/>90(U)</b><br><br>489.77<br><br>583.86 | <b>Turbine</b><br>Replacement of runners, guide vanes, guide vane operating mechanism, GV pads, turbine shaft sleeve and coupling cover, head cover, shaft sealing box. Governor oil pr. Motor pump, aeration pipe, instrument panel etc.<br><br><b>Generator</b><br>Replacement of stator winding, stator core and frame assembly, rotor pole assembly, thrust collar, air coolers, thrust bearing pads, upper and lower guide bearings, upper and lower bracket, braking system, generator temp. monitoring panel, excitation system, slip ring, NGT etc.<br><br><b>Auxiliaries</b><br>Control & Protection panels, Generator Transformers, Bus Bars with CTs, PTs etc. LAVT cubicle, switchyard equipment, control cables etc. | <ul style="list-style-type: none"> <li>- Works awarded to consortium led by M/s Sumitomo Corporation, Japan (with other members i.e. M/s Hitachi Ltd. Japan and VA Tech Hydro, GmbH, Austria) on 27.10.2007.</li> <li>- Contract agreements were signed on 02.11.2007 at a total cost of Rs. 489.77 Crores (including Rs. 29.57 Crores towards replacement of turbine &amp; generator shafts).</li> </ul> <p><b><u>Unit 2</u></b></p> <ul style="list-style-type: none"> <li>- The unit was synchronized on 23.06.2013.</li> <li>- BBMB issued TOC to consortium on 29.11.2018.</li> </ul> <p><b><u>Unit 5</u></b></p> <p>The Unit was commissioned after modification of runner profile on 16.5.2022. TOC issued by BBMB on 27.06.2022</p> <p><b><u>Unit 4</u></b></p> <p>Unit is running with output of 126 MW. BBMB issued TOC to the consortium on 23.07.2019.</p> <p><b><u>Unit 3</u></b></p> <p>Unit is running with output of 126 MW. The TOC was issued by BBMB on 16.03.2022.</p> <p><b><u>Unit 1</u></b></p> <p>On successful completion of trial run operation at rated full load (126 MW), unit commissioned w.e.f. 27.09.2023.</p> |
|----|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations during 2022-27**

**NORTHERN REGION**

**UTTARAKHAND**

**(Amount in Rs. Crores)**

| S. No.                       | Scheme/ Category/ Completion Target                                                                                                                  | Expected Benefit (MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES COMPLETED</b> |                                                                                                                                                      |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3.                           | <b>Tiloth (Maneri Bhali-I),</b><br>3x30 MW<br>UJVNL<br>1984<br>T&G – BHEL<br><br><b>RM&amp;LE</b><br><br><b>2022-23</b>                              | <b>90(LE)</b><br><br>384.66<br><br>206.17          | -Refurbishment of turbine, three nos. new runners& one spare runner, new sets of guide vanes. Repairing of various gates and gantry cranes.<br>-Refurbishment of generators with new class F insulated stator & rotor winding. New SEE, Replacement of ABCBs by SF6 breakers, 11 kV Switchgear. Installation of numerical type protection system.<br><br>-Civil works of barrage, power channel, power station & Tail race channel.                                                                                                                                    | Agreement for Rs.139.9 Cr. signed with M/s. Andritz Hydro Pvt. Ltd. (AHPL) on 14.12.2016.<br><br><b>Works Completed</b><br><br><b>Unit 1</b><br>• Commissioning date : 17.04.2020<br><br><b>Unit 3</b><br>• Machine no. 3(RMU 2 <sup>nd</sup> Unit) taken over by UJVNL Ltd. for commercial operation on 06.07.2021. Machine is capable of running continuously at 34.1 MW.<br><br><b>Unit 2</b><br>• Machine no. 2 taken over by UJVNL Ltd. for commercial operation on 08.09.2022. |
| 4.                           | <b>Dhalipur,</b><br>3x17 MW<br>UJVNL<br>1965-70<br>T - Litostroj,<br>Yugo.<br>G - Rade<br>Konkar, Yugo<br><br><b>RM&amp;LE</b><br><br><b>2023-24</b> | <b>51 (LE)</b><br><br>152.65<br><br>139.87         | • Replacement of turbine runners, guide vanes, distributor assembly, compressed air system, OPU, governing system, turbine shaft, turbine guide bearing and shaft seal assembly.<br>• Repairing of various gates and gantry cranes, EOT Crane, New trash rack and TRCM.<br>• Replacement & installation of new stator frame, stator core and new F class insulated stator and rotor winding, Lower Bracket, Top Cover. Refurbishment of thrust bearing system, Replacement of UGB, Replacement of excitation system, generator & transformer protection system, MV& LV | Order placed on M/s. Gogoal Energo Pvt. Limited (GEPL), New Delhi for Rs. 78.25 Crs. on 28.12.2016.<br><br>• After RMU Unit-A commissioned on 26.10.2022.<br>• After RMU Unit-B commissioned on 07.06.2021.<br>• After RMU Unit-C commissioned on 07.10.2023.                                                                                                                                                                                                                        |

|    |                                                                                                                                                                       |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                                                                                                                                                       |                                       | Switchgears, D&D System, DG Set, Battery, Battery charger, DCDB, cooling water system. New control and power Cables. Installation of New SCADA System.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 5. | <b>Dhakrani,</b><br>3x11.25MW<br>UJVNL<br>1965-70<br>T - Litostroj,<br>Yugoslavia.<br>G - Rade<br>Konkar,<br>Yugoslavia<br><br><b>RM&amp;LE</b><br><br><b>2026-27</b> | 33.75 (LE)<br><br>137.31<br><br>127.5 | <ul style="list-style-type: none"> <li>Replacement of turbine runners, runners chambers, new compressed air system. OPU's, governors, new sets of guide vanes, distributor system, head covers TG shaft, TGB &amp; shaft sealing system. Repairing of various gates and gantry cranes, New TRCM and HSLs.</li> <li>Refurbishment of generators with new class F insulated stator &amp; rotor windings. New UGB and Thrust bearing system, New Generator Transformers.</li> <li>Civil works of barrage, power channel, power station &amp; Tail race channel.</li> </ul> <p>New SEE, Replacement of MV &amp; LV Switchgears, SCADA system. Installation of numerical type generator protection system. Control and Power cables.</p> | <ul style="list-style-type: none"> <li>Approval accorded for inviting fresh bids on National Competitive Bidding (NCB) route through domestic funding.</li> <li>Revised DPR was approved by Board on 30.09.2015 and by UERC on 27.06.2017.</li> <li>Financial approval accorded by CPC on 16.11.2017. BoD directed to put up the proposal again with modifications. Revised e-tender uploaded on e-portal on 16.09.2019.</li> <li>LOA has been issued to M/s Flovel on 05.07.2021.</li> <li>Unit#A handed over to M/s Flovel for reverse engineering on 02.02.2022.</li> <li>LOI for additional works for restoration work of Unit A was placed to M/s Flovel on 19.04.2022.</li> <li>Model Test completed on 12.10.2023.</li> <li>Unit-A R&amp;M works started on 16.02.2024 and completed on 01.03.2025 and CoD completed on 07.03.2025.</li> <li>R&amp;M of Unit-B started on 16.03.2025 and completed on 21.09.2025 and CoD completed on 26.09.2025.</li> <li>Major supplies of 3<sup>rd</sup> Machine have been received.</li> <li>Unit C was handed over for RMU on 30.10.2025</li> <li>RMU of 3<sup>rd</sup> Machine (Unit C) completed on 25.05.2026 &amp; COD of Unit-C is 01.06.2026.</li> <li>Balance supply/works are under progress.</li> <li>Physical Progress-97%</li> </ul> |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations during 2022-27**

**NORTHERN REGION**

**UTTAR PRADESH**

**(Amount in Rs. Crores)**

| S. No.                       | Scheme/ Category/ Completion Target                                                                                                 | Expected Benefit(MW)/ Estimated Cost/ Expenditure        | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES COMPLETED</b> |                                                                                                                                     |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 6.                           | <b>Rihand,</b><br>6x50 MW<br>UPJVNL<br>1962 (U-1to5)<br>1966 (U-6)<br>T&G - EE,<br>UK<br><br><b>RM&amp;LE</b><br><br><b>2022-23</b> | <b>300 (LE)</b><br><br>132.20<br>(Revised)<br><br>129.67 | <ul style="list-style-type: none"> <li>- Replacement of Stator Core, and Coils insulation with Class F.</li> <li>- Replacement of insulation of field coils with Class F</li> <li>- Replacement of Governors</li> <li>- Replacement of Excitation Equipment, 60 MVA generator transformers by 67.5 MVA Transformers, switchyard equipment, Bus bars and under water parts</li> <li>- New Air Cooler and Ventilation system.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p>Works of all six units completed by BHEL (Units Commissioned on: U-1: 16.09.2016, U-2: 14.02.2018, U-3: 15.06.2015, U-4: 04.08.2014, U-5: 23.04.2011 and U-6: 31.05.2017).</p> <p>All works completed except some overhauling works of intake gates along with alignment of T-Guide and their hoisting for Unit#1, Unit#5 &amp; Unit#6 and SCADA under common works.</p> <p>Scheme is declared completed in 2022-23.</p>                       |
| 7.                           | <b>Obra,</b><br>3x33 MW<br>UPJVNL<br>1970 (U-1&2),<br>1971 (U-3)<br>T&G - BHEL<br><br><b>RM&amp;LE</b><br><br><b>2025-26</b>        | <b>99 (LE)</b><br><br>58.80<br><br>49.85                 | <ul style="list-style-type: none"> <li>- Replacement of Stator coil, core &amp; rotor pole etc. (Unit#1, 2&amp; 3).</li> <li>- Replacement of rotor spider arm (Unit# 1&amp;3).</li> <li>- Replacement of digital governor (Unit#1, 2&amp; 3).</li> <li>- Supply of Government oil pump (Unit#1, 2&amp; 3).</li> <li>- Supply &amp; installation of Static Excitation System (Unit#1, 2&amp; 3).</li> <li>- Supply of Gen. Air coolers (Unit#1).</li> <li>- Rehabilitation of Intake gate of Units</li> <li>- Rehabilitation of stop logs, draft tube gates.</li> <li>- Refurbishment of draft tube gate crane.</li> <li>- New earthing of Switchyard</li> <li>- Station battery.</li> <li>- Replacement of 132KV Breakers.</li> <li>- Overhauling of 132KV Isolator (32 Set).</li> <li>- Supply of replacement of 132KV CT&amp;PT.</li> <li>- Replacement of numeric relay panels of Units &amp; Feeders.</li> <li>- Replacement of station battery</li> <li>- Installation of Radio Remote Control of both EOI cranes.</li> </ul> | <p><b><u>UNIT No. 1</u></b><br/><b>All work Completed. Unit Commissioned on 28.08.2024.</b></p> <p><b><u>UNIT No. 2</u></b><br/><b>All work executed Unit Commissioned on 25.07.2025.</b></p> <p><b><u>UNIT No. 3</u></b><br/><br/>All works completed. Unit commissioned on 29.09.2022.</p> <p><b>COMMON WORKS: All works executed except the following:</b></p> <p>1. Provision of station supply from Obra HEP 132 KV Bus- under Progress.</p> |

| S. No. | Scheme/ Category/ Completion Target | Expected Benefit(MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                                                          | Present Status |
|--------|-------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
|        |                                     |                                                   | <ul style="list-style-type: none"> <li>- Smoke Fire detection system.</li> <li>- Supply of dewatering pumps, air compressor.</li> <li>- Supply &amp; replacement of Elevator (1 No.).</li> <li>- Supply of 1 No. Electrostatic Liquid Cleaner (ELC) &amp; 1 No. Low Vacuum Dehydration (LVDH) Machine.</li> <li>- SCADA</li> <li>- Other works covered in various packages approved by ETF.</li> </ul> |                |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations during 2022-27**

**SOUTHERN REGION**

**TELANGANA**

**(Amount in Rs. Crores)**

| S. No.                       | Scheme/ Category/ Completion Target                                                                                                                                                                                                          | Expected Benefit (MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Present Status                           |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| <b>A – SCHEMES COMPLETED</b> |                                                                                                                                                                                                                                              |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                          |
| 8.                           | <b>Nagarjuna Sagar Phase II works,</b><br>1x110 +<br>7x100.8 MW,<br>TSGENCO<br>1978-85<br><u>Unit-1:</u><br>T&G - BHEL<br><u>Units 2 to 8:</u><br>PT - Hitachi,<br>Japan<br>MG - MELCO,<br>Japan<br><br><b>R&amp;M</b><br><br><b>2022-23</b> | -<br><br>21.67<br><br>14.34                        | 1. Replacing existing AVR's with latest DVR's along with thyristor modules for 7 units at NSPH.<br><br>2. Replacement of all L.T. Breakers of all units and SABs of NSPH.<br><br>3. Retrofitting of Numerical Relays of Generator Protection Schemes of Units 2 to 8.<br><br>4. Overhauling of EOT Cranes and Gantry cranes at NSPH.<br><br>5. Procurement of control cables of different sizes for units 1 to 8, common auxiliaries, Switchyard equipment and switchyard marshalling boxes and laying of Power Cables and Control Cables for Penstock Inlet Gates from main control room for NSPH.<br><br>6. Servicing and reconditioning/ procurement of new Isolators required for motoring mode operation for 89G, 89M, 189S1 and 189S2 for units-1 to 8.<br><br>7. Procurement of 245 KV SF6 Circuit Breakers.<br><br>8. Overhaul of stop log gates, penstock gates and seals replacement for draft tube gates for all units of NSPH including trash rack at tail race.<br><br>9. Replacement of switchyard equipment that have completed 25 years of service of 220 KV CVTs (10 Nos.), | Scheme is declared completed in 2022-23. |

|    |                                                                                                                                                                |                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                                                                                                                                                |                           | 132 KV CVTs (17 Nos.), 220 KV PTs (5 Nos.), 132 KV PTs (8 Nos.), 220 KV LAs (13 Nos.) and 132 KV LAS (13 Nos.) for NSHES.<br><br>10. Procurement of 220 KV CTs (18 Nos.) for units (silicon rubber composite type).                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 9. | <b>Nagarjuna Sagar Left Canal Power House (NSLCPH), 2x30.6 MW TSGENCO 1992 T-Boving, UK G-General Electric, UK</b><br><br><b>R&amp;M</b><br><br><b>2022-23</b> | -<br><br>30.99<br><br>1.5 | 1. Replacing existing AVR with latest DVRs along with thyristor modules for 2 units.<br><br>2. Capital overhauls on generator and turbine and its auxiliaries including spares and consumables for all 2 units.<br><br>3. Modification in design of runner for both units for operating at lower heads.<br><br>4. Overhauling of EOT Cranes and gantry cranes.<br><br>5. Procurement of 132KV SF6 Circuit Breakers for both units and its feeders.<br><br>6. Implementation of SCADA.<br><br>7. Providing of latest version of EHG System for 1 Unit.<br><br>8. Cooling water line erections. | <b>Scheme is declared completed in 2022-23</b><br>1. It is proposed to postpone the work of replacing existing AVR with latest DVRs along with thyristor modules for Unit-2 in to the R&M works.<br><br>2. Unit-1 overhauling completed. Unit found normal and taken into service on 20.11.17. The capital overhauling works of Unit-2 has been deferred as the unit running hours are less and there is no major problem in Turbine & Generator.<br><br>3. Not feasible, hence the proposal has been dropped.<br><br>4. Completed.<br><br>5. Completed (Siemens)<br><br>6. Completed (ABB)<br><br>7. Completed (BHEL)<br><br>8. Completed. |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2022-27**

**SOUTHERN REGION**

**TAMILNADU**

**(Amount in Rs. Crores)**

| S. No.                                            | Scheme/ Category Completion Target                                                                                                                                    | Expected Benefit (MW)/ Estimated Cost/ Expenditure            | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES ONGOING - Under Implementation</b> |                                                                                                                                                                       |                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>10.</b>                                        | <b>Moyar,</b><br>3x12 MW<br>TNPGL<br>1952-53<br>T – Boving,UK<br>G -Metropolitan<br>Vickers Electric<br>Co. limited,UK<br><br><b>RMU&amp;LE</b><br><br><b>2026-27</b> | <b>36 (LE)+<br/>6 (U)</b><br><br><b>121.127</b><br><br>106.26 | Planning, design, model testing, engineering, manufacture, procurement/ supply of new components and spares at site, painting including penstock (internal and external), insurance, dismantling, capital repairs, erection, testing and commissioning of 3 nos. hydro generating units including P.G. Test in any one of the units. Associated technological, civil, mechanical, electrical works as required with new TG set from 3x12MW to 3x14 MW and Plant, Equipment & facilities. | <p>The work for conducting RLA study and uprating study on Turbine, Generator and other auxiliaries for Rs. 82.8 lakhs was awarded to M/s MECON, Ranchi on 17.06.2013. MECON submitted final DPR for works on 07.02.15. Administrative approval accorded on 04.06.2016.</p> <p>Techno-commercial Bid opened on 15.02.2019. TNPGL Board in its 91<sup>st</sup> Meeting held on 22.11.2019 for Placing Orders on L1 tenderer M/s. Andritz Hydro Private Limited, New Delhi and Letter of Intent (LOI) has been issued on 28.11.2019. Contract agreement has been executed on 14.01.2020. Unit-2 handed over to M/s. AHPL for Reverse Engineering works on 27.01.2020 &amp; completed on 02.12.2020.</p> <p>Drawings submitted by M/s AHPL and approved by TNPGL. Dispatch clearance issued for items inspected and test certificates approved. All materials for Unit-1 &amp; common items have been supplied by M/s AHPL.</p> <p>Unit-1 has been handed over for RMU works on 28.03.2022 and the work is completed on 11.12.2024 and uprated from 12MW to 14MW.</p> <p>Unit-2 has been synchronized with uprated capacity of 14MW on 10.11.2025 after RMU works.</p> <p>Unit-3 penstock replacement work under progress. After completion of Unit-III penstock replacement works, the same will be commissioned with uprated capacity of 14MW. Cooling water system work under progress. P.G. test yet to be done.</p> <p>Completion Schedule:<br/>Unit-3 –30.11.2026</p> |

| S. No. | Scheme/ Category Completion Target                                                                                                                         | Expected Benefit (MW)/ Estimated Cost/ Expenditure     | Scope of work                                                                                                                                                                                                                                                                                                                                                                                    | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11.    | <b>Kodayar PH-I,</b><br>1x60 MW<br>TNPGL<br>1970<br>T-Vevey Engg. works,<br>Switzerland<br>G-Alstom, France<br><br><b>RMU&amp;LE</b><br><br><b>2026-27</b> | <b>60 (E)+</b><br><b>10 (U)</b><br><br>80.96<br><br>35 | Planning, design, CFD/model testing, engineering with RE, manufacture, procurement/ supply of new components and spares at site, painting-penstock, insurance dismantling, capital repairs, erection, testing and commissioning of P.G. Test. Associated technological, civil, mechanical, electrical works as required with new TG set from 1x60MW to 1x70MW and Plant, Equipment & facilities. | Contract was awarded to M/s MECON Ltd., Ranchi for Rs. 91 lakhs on 22.09.2014 for conducting RLA study and uprating study on Turbine, Generator and other auxiliaries. They have completed the study and furnished the final DPR. Administrative approval accorded on 03.02.2017.<br><br>Techno-commercial Price-Bid opened on 05.09.2019. The BLTC in its 314 <sup>th</sup> Meeting held on 18.11.2019 approved and recommended the proposal for placing works contract order on the L1 tenderer i.e. BHEL, New Delhi to TNPGL Board. Letter of Intent issued to M/s BHEL on 09.03.2020. Reverse Engineering Works completed on 10.08.2021. Drawings being submitted by BHEL and approved by TNPGL.<br><br>Materials are being dispatched by BHEL at site. EOT crane refurbishment work completed except load test. Unit handed over to BHEL for RMU work on 07.08.2024. Works under progress.<br>Target Completion: November 2026 |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2022-27**

**SOUTHERN REGION**

**KARNATAKA**

**(Amount in Rs. Crores)**

| S. No.                       | Scheme/ Category/ Completion Target                                                                                                                                                                                    | Expected Benefit(MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                    | Present Status                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES COMPLETED</b> |                                                                                                                                                                                                                        |                                                   |                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                       |
| 12.                          | <b>Munirabad Dam Power House,</b><br>2x9 MW (U-1&2), 10 MW ,(U-3),<br>KPCL<br>1962(U-1&2)<br>1965 (U-3)<br>T-Hitachi Ltd, Japan<br>G- U-1&2: Hitachi<br>U-3: Voest Alpine, Austria<br><b>R&amp;M</b><br><b>2022-23</b> | <b>28 (LE)</b><br><br>4.60<br><br>2.20            | Generator protection and DCS based SCADA system for Unit 1, 2&3.<br><br><br><br>2 nos. 11kV Tee-off cubical of Units 1&2 and 11kV Gescom UAT switchgear cubicle. | PO placed on M/s ABB India Ltd., on 26.03.2018 for Rs. 4.87 crore. Contract agreement was signed on 04.05.2018. Work completed.<br><br>Supply, erection and commissioning of panel completed by M/s Amar Raja power systems Ltd., Tirupati.                                                                                                                           |
| 13.                          | <b>Linganamakki Dam Power House (LDPH),</b><br>(2x27.5MW)<br>KPCL<br>1979-1980<br>T – Electrosilla, USSR<br>G - Electrosilla, Energomach-USSR<br><br><b>R&amp;M</b><br><br><b>2022-23</b>                              | -<br>1.34<br><br>1.34                             | Relay and control panels & DCS based SCADA system.                                                                                                               | PO placed on M/s. ABB for modification of released panels of SGS to suit LPH at a total cost of Rs. 29.02 Lakhs. Commissioning of panels completed for U#2 for both lines. LOA is issued to M/s ABB limited at the cost of Rs. 2,45,97,408/- on 23.11.2017. Erection, Testing & commissioning of panels for 1 no. Bus coupler, lines (4 no.) and U# 1&2 is completed. |
| 14.                          | <b>Gerusoppa Dam Power House (Sharavathy Tail Race),</b><br>(4x60MW)<br>KPCL<br>2001-2002<br>T&G - BHEL<br><br><b>R&amp;M</b><br><br><b>2023-24</b>                                                                    | -<br>59.66<br><br>2.026                           | Midlife replacement of switchyard equipment's planned<br><br><br><br>R&M works of Turbine and generator                                                          | Ordered issued to M/s APPSIL on 21.05.2021. 4 sets 245 kV CB's & 23 nos. of 245 kV CTs received at site. Erection of switchyard equipment completed.<br><br>Based on AOH reports and in house studies and the condition of the equipment, R&M works of turbine and Generator will be taken up at later stage.                                                         |

| S. No.                                            | Scheme/ Category/ Completion Target                                                                                                                                                                                  | Expected Benefit(MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                         | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                   |                                                                                                                                                                                                                      |                                                   |                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>B - SCHEMES ONGOING - Under Implementation</b> |                                                                                                                                                                                                                      |                                                   |                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 15.                                               | <b>Shivasamudram Hydro Power Station,</b><br>6x3 MW<br>4x6 MW<br>KPCL<br>1920-38<br>T - Boving, UK (U1 to U6)<br>Escher Wyess, Switzerland (U7 to U10)<br>G - GEC, USA<br><br><b>RM&amp;LE</b><br><br><b>2026-27</b> | <b>42 (LE)</b><br><br>169.18<br><br>106           | Model test, design engineering, manufacturing, supply of Turbine & its auxiliaries, Excitation system, Governing system, and dismantling, erection, testing & commissioning, improvements in water conducting system. | LOA dated 29.11.2018 issued to M/s Andritz Hydro for Model test, design engineering, manufacturing supply of Turbine & its auxiliaries, Excitation system, Governing system, SCADA system, Controls & protection System and dismantling, erection testing & commissioning. Contract agreement executed on 31.01.2019 and Model test procedure for 6 MW turbine and CFD analysis procedure for 3 MW unit are approved. Final approval to model test and CFD reports issued on 19.01.2023. Drawings/ Documents submitted by the firm approved.<br>Material transport winch trolley handed over to M/s AHPL on 05.10.2024 and U-7 & 9 handed over for erection and commissioning on 05.10.2024. U-7 synchronized on 02.07.2025. U-9 synchronized on 01.09.2025 & reliability test completed on 06.09.2025. U-2 & U-10 handed over for erection & commissioning work on 01.04.2025. Unit#2 synchronized on 11.12.2025. Unit#10 synchronized on 06.12.2025. 3 <sup>rd</sup> stage of units of 3MW (5, 6&8) handed over for erection on 18.12.2025.<br>1) Cooling water and piping pre-fabrication work completed.<br>2) OPU, LOS positioning completed.<br>3) MIV Dismantling refurbishment and reinstallation is completed.<br>4) Varnish, re-assembly of stator and rotor and high voltage test completed.<br>5) U-5 Final turbine alignment and other |

| S. No. | Scheme/ Category/ Completion Target                                                                                                                                                                                                                                     | Expected Benefit(MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                                                                                                                                                                                                                         |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>equipment commissioning works in progress.</p> <p>6)U-6 wet synchronization done on 15.06.2026</p> <p>7) U-8 - 2nd stage concrete completed. TATB cable works in progress Spiral casing inlet elbow rework under progress.</p> <p>Completion Schedule:<br/>Unit 5: July 2026<br/>Unit 8: July 2026</p> <p>Expected completion : October 2026</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 16.    | <p><b>Sharavathy Generating Station,</b><br/>(10x103.5MW)<br/>KPCL<br/>1964-77<br/>T- U:1-8 - Neyrpic, France,<br/>U:9-10- BHEL,<br/>G- U:1&amp;2-Hitachi, Japan,<br/>U:3to8 –GE Co, USA,<br/>U:9&amp;10- BHEL,</p> <p><b>R&amp;M &amp;LE</b></p> <p><b>2026-27</b></p> | <p>1035 (LE)</p> <p>196.56</p> <p>8.33</p>        | <p><b>Hydro-mechanical Works:</b><br/>Overhauling of tunnel Stop log gates, Gates and gantry crane of surge shaft, R&amp;M of BF valves, Civil structure (rails) for movement of gantry crane, cleaning and painting of internal and exterior surfaces of all penstocks, etc.</p> <p>R&amp;M and Automation of BF &amp; By-pass valves at valve house and incorporation of remote operation by extending the SCADA/ DCS System from SGS</p> <p><b>Generator and associated components.</b> R&amp;M of Static Excitation System (SEE).</p> | <p>Overhauling of U#1 to 3 &amp; 5 BF Valves completed.<br/>Renovation of 20T capacity gantry and stop log gates completed.<br/>The work of replacement of rubber seals for gates was taken up. Painting work for penstocks completed</p> <p>Job order placed on M/s Voith Hydro Power Ltd., Noida at cost of Rs. 9, 99, 70,000 on dtd. 15.03.2024. Supply of materials Completed. Unit-3 handed over for erection works on 28.08.2025 &amp; work completed on 18.12.2025. Unit-4 handing over for erection on 14/10/2025 &amp; work completed and unit synchronized on 31.12.2025. U-6 handed over on 27.03.2026 and work completed on 25.04.2026 U-5 handed over on 03.06.2026 and work completed on 18.06.2026 U-7 handed over on 22.06.2026 work in progress.</p> <p>Work order placed on M/s Andritz Hydro at a cost of 8.93 Cr. on 05.08.2024.</p> |

| S. No. | Scheme/ Category/ Completion Target | Expected Benefit(MW)/ Estimated Cost/ Expenditure | Scope of work | Present Status                                                                                                                                                                                                                                           |
|--------|-------------------------------------|---------------------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                     |                                                   |               | <p>Inspection for LOT-1 supply is completed on 22.07.2025.</p> <p>All 10 units' supplies are completed on 15.01.2026.</p> <p>Erection &amp; commissioning of U-3, U4, U5 and U6 completed. U-7 handed over on 15.06.2026 and work is under progress.</p> |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2022-27**

**SOUTHERN REGION**

**KERALA**

**(Amount in Rs. Crores)**

| S. No.                                            | Scheme/ Category/ Completion Target                                                                              | Expected Benefit(MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES ONGOING - Under Implementation</b> |                                                                                                                  |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 17.                                               | <b>Kuttiyadi</b><br>3x25 MW<br>KSEB<br>1972<br>T&G-Fuji,<br>Japan<br><br><b>RMU&amp;LE</b><br><br><b>2026-27</b> | 75 (LE)+<br>7.5 (U)<br><br>90.18<br><br>63.115    | Each unit is proposed to be uprated from 25 MW to 27.5 MW.<br>Inspection and rectification of Trash rack.<br>Butterfly valve operation to be made electrically and mechanically with remote.<br>New penstock, MIV replacement with PLC controls. PMG replacement with SSG.<br>Pelton turbine runner's replacement.<br>Replacing Generators, Static excitation with AVR.<br>Replacing Cooling water system.<br>Replacement of DG set.<br>Integrated SCADA, New fire protection system, Store and AC system modification of switchyard.<br>New 11 kV switch gear.<br><br><u>Scope of WO to BHEL</u><br>Replacement of MIV and complete turbine excluding embedded turbine header/manifold/distributor piping with new ones. The existing 25MW generators shall be replaced with new generators of 27.5MW with 10% continuous overloading capacity including excitation system, governor system.<br><br>Other works: Are planned to be executed through different contractors. | <ul style="list-style-type: none"> <li>• Proposal for new penstock is kept in abeyance.</li> <li>• Work order for new Electro-Mechanical work is awarded to BHEL.</li> <li>• Model Test of Turbine completed and payment issued.</li> <li>• Erection work of Stator &amp; Rotor (Unit #3) is completed.</li> <li>• Trial run of unit 3 done on 21.02.2025 and at 253 RPM Rotor V-block failed.</li> <li>• All erection activities and rectification works for the first unit (Unit#3) under the project have been completed and machine synchronized to grid on 13.01.2026.</li> <li>• Loading has been carried out up to the rated load of 27.5 MW on Unit#3 and up to 110% load (30.25 MW).</li> <li>• Commercial operation of Unit #3 at Kuttiyadi HEP commenced on 10.03.2026; however, the machine tripped on 07.04.2026 due to excessive vibration in the Upper Guide Bearing (UGB) X-axis. Considering the unsafe operating conditions, the unit has been kept under Forced Shut Down (FSD). The same is being under rectification by BHEL.</li> <li>• Dismantling work of Unit #2 has not yet started. The same will commence only after the completion of rectification work of Unit #3.</li> <li>• <b>Other Works:</b></li> <li>• Replaced all four feeder PTs (Other RMU works).</li> </ul> |

|  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |  | <ul style="list-style-type: none"> <li>• Replaced all three old 28 MVA GTs with new 35 MVA GTs of TELK make.</li> <li>• Construction of new 11 kV control room is completed, trench work is in progress and 16 panels set of 11 kV is set to be received.</li> <li>• Cooling Water system- Replacement of the existing CW pumps, strainers and pipelines is necessary to ensure the required cooling water pressure. Started from 15.09.2025 onwards.</li> </ul> |
|--|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2022-27**

**EASTERN REGION**

**ODISHA**

**(Amount in Rs. Crores)**

| S. No.                                           | Scheme/ Category/ Completion Target                                                                                                           | Expected Benefit(MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES ONGOING –Under Implementation</b> |                                                                                                                                               |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 18.                                              | <b>Balimela,</b><br>6x60 MW<br>OHPCL<br>1973-77<br>T-LMZ,<br>USSR<br>G-<br>Electrosila,<br>USSR<br><br><b>RM&amp;LE</b><br><br><b>2026-27</b> | <b>360(LE)</b><br><br><b>382.91</b><br><br>239.28 | <b>Replacement of</b><br>i) The Turbine & Generator with new ones except the water conductor system.<br>ii) The auxiliaries of the Units including the common auxiliaries.<br>iii) Existing Governors with micro-processor based Digital Governor.<br>iv) Exciter and AVR with Static Excitation System.<br>v) New Thrust bearing pads self-lubricated PTFE Type.<br>vi) C&I system.<br>vii) Protection system by state of the art Numerical Relays.<br>viii) Replacement, 11/220 kV Generator Transformer, Bus Duct system.<br>ix) New Station Auxiliary Transformer.<br>x) Control Power cable with FRLS type cable.<br>xi) Architectural works including interior decoration of Power House.<br>xii) Extension of 1No. 220kV bay in Switchyard.<br>xiii) Refurbishment of Intake gates, Draft Tube gates and civil works. | Contract Agreement signed with BHEL on 21.09.2016. BHEL took over the units on 18.12.2017.<br>OHPC engaged WAPCOS Ltd. as consultant.<br><br><b><u>Works Completed:</u></b><br><b>Unit 1 &amp; 2</b> <ul style="list-style-type: none"> <li>• 220 kV Switchyard bay extension work completed on 15.06.22. Loading of Station Transformer completed on 15.06.2022.</li> <li>• Commercial operation of Unit 2 started from 29.12.2021.</li> <li>• Commercial operation of Unit 1 started from 15.04.2022.</li> <li>• Final Takeover of Unit 1&amp; 2 completed on 12.09.2023</li> </ul> <b>• Unit 3 &amp; 4</b> <ul style="list-style-type: none"> <li>• Handed over to BHEL for R&amp;M work on 16.08.2022 &amp; 10.08.2022 respectively.</li> <li>• Trial Mechanical Spinning of Unit 4 completed.</li> <li>• SCC test of Unit 4 completed.</li> <li>• Commercial operation of Unit-4 started from 06.02.2024.</li> <li>• For Unit-3, Test synchronization was done on 29.03.2024 and load off test was done on 30.03.2024.</li> <li>• Commercial operation of Unit-3 started from 10.04.2024.</li> </ul> <b>• Unit 5&amp;6</b> <ul style="list-style-type: none"> <li>• Unit No. 5&amp;6 were handed over to BHEL on 22.01.2025 for taking up the R&amp;M Works.</li> <li>• Dismantling of TG Set and associated auxiliaries of Unit 5&amp;6 completed on 29.04.2025.</li> <li>• Refurbishment of Penstocks, Spiral Casing of both Unit-5 &amp; 6 have been completed.</li> </ul> |

| S. No. | Scheme/ Category/ Completion Target | Expected Benefit(MW)/ Estimated Cost/ Expenditure | Scope of work | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|-------------------------------------|---------------------------------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                     |                                                   |               | <ul style="list-style-type: none"> <li>• Final Assembly of Guide Apparatus of Unit-5 completed.</li> <li>• The Stator &amp; Rotor Assembly of Unit-5 &amp; 6 have been completed including lowering of Rotor inside the Generator Barrel pit.</li> <li>• Refurbishment of Draft Tube Liner of Unit-6 has been completed.</li> <li>• Installation of Thrust Collar and Thrust bearing assembly, Generator Air cooler, Installation of Governor oil pipelines of Unit-5 completed.</li> <li>• Final Assembly of Guide Apparatus of Unit- 6 completed.</li> <li>• PRV, MIV HCP Oil Pipeline Work and Pipeline Works for Cooling Water System of both Unit 5 &amp; 6 completed.</li> <li>• Installation of Bus Duct (IPBD) and Generator Transformer of Unit-5 &amp; 6 completed.</li> <li>• Unit-5 box up work is under progress.</li> <li>• Unit-5 instrumentation work is under progress.</li> <li>• Unit-6 Generator shaft alignment is under progress.</li> <li>• Unit-6 MIV &amp; Governor Oil pipe line work is under progress.</li> <li>• Unit-5&amp;6 GT Firefighting water pipe line fabrication work is under progress.</li> <li>• Completion Target: 31.07.2026</li> </ul> |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2022-27**

**EASTERN REGION**

**JHARKHAND**

**(Amount in Rs. Crores)**

| <b>S. No.</b>                                     | <b>Scheme/ Category/ Completion Target</b>                                                                        | <b>Expected Benefit(MW)/ Estimated Cost/ Expenditure</b> | <b>Scope of work</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Present Status</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES ONGOING - Under Implementation</b> |                                                                                                                   |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>19.</b>                                        | <b>Panchet U-1, 2x40 MW DVC 1959 T - NOHAB, Sweden G - AEG, West Germany<br/><br/>RMU&amp;LE<br/><br/>2026-27</b> | <b>40 (LE)<br/>+6(U)<br/><br/>121.85<br/><br/>102.00</b> | <ul style="list-style-type: none"> <li>Replacement of main Electro-Mechanical Equipment (Design, CFD, Model testing, supply Erection, Testing, commissioning and PG Test) consisting of Vertical Full Kaplan Turbine, Generator, Excitation System &amp; AVR etc. and associated auxiliaries other plant Equipment/ system essential for life extension of the unit as well as station.</li> <li>Implementation of Control, Monitoring &amp; Protection system of Power Plant such as DCS, Electronic Governors, Static Excitation System, numerical relays, SCADA etc.</li> <li>Refurbishment of water conducting system consisting of Penstock, spiral casing, stay vanes, Draft tube etc.</li> </ul> | <ul style="list-style-type: none"> <li>LOA placed on BHEL for RMU work of Unit#1 on 17.01.2022. Completion period is 24 (twenty-four) month from LOA date.</li> <li>Kick-off meeting held with BHEL on 07.02.2022.</li> <li>Manufacturing of model completed. Turbine model testing commenced from 30.11.2022 and completed on 09.12.2022.</li> <li>Basic engineering &amp; detail engineering completed.</li> <li>Generator shaft reached at Panchet.</li> <li>Erection activities and Box-up of unit completed. Spinning of machine and SCC test completed.</li> <li>Completion Schedule: -30.07.2026</li> </ul> |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2022-27**

**NORTH EASTERN REGION**

**ASSAM**

**(Amount in Rs. Crores)**

| S. No.                       | Scheme/ Category/ Completion Target                                                                                    | Expected Benefit (MW)/ Estimated Cost/ Expenditure                             | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES COMPLETED</b> |                                                                                                                        |                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 20.                          | <b>Kopili Power Station,</b><br>4x50MW<br><br>T&G- BHEL 1988<br><br><b>RM&amp;LE</b><br><br><b>2024-25</b>             | <b>200 (LE)</b><br><br><b>1075.19</b><br><br><b>1201.65</b>                    | i) Activities covering repair/rectification of tunnel, PPV, replacement of both the penstocks along with related civil works, stability study of civil structures, refurbishment of intake gate, dam etc.<br><br>ii) Activities covering main equipment i.e. Turbine, generator, GTs, other plant equipment for efficient and sustained performance of the units as well as the station.<br><br>iii) Activities for integration of Control, monitoring and protection system of power plant such as Electronic/digital Governors, SCADA, SAS etc.<br><br>iv) Renovation of SY equipment along with replacement of instrument transformers of higher accuracy class, PI, LA SST & SAT etc.<br><br>v) Activities having direct impact on improvement generator/turbine efficiency, machine availability etc.<br><br>vi) Implementation of AGC in all the units. | 1. CEA/CWC has cleared Cost Estimate of renovation and Modernisation for Rs 824.12 Crs at Jan 2021 PL and Rs. 53.97 Cr (IDC).<br><br>2. Financial aspects and levelized tariff finalized as follows:1st year = Rs 2.78/KWH<br>Levelized tariff: - Rs 2.83/KWH<br><br>3.<br><br>a) Commercial operation of Unit 4 started w.e.f. 20.08.2023<br><br>b) Commercial operation of Unit 3 started w.e.f. 03.09.2023.<br><br>c) Commercial operation of Unit 2 started w.e.f. 12.11.2023.<br><br>d) Commercial operation of Unit 1 started w.e.f. 03.06.2024.                                 |
| 21.                          | <b>Khandong Power Station,</b><br>2x23 MW<br>NEEPCO<br>T&G- BHEL 1984-85<br><br><b>RM&amp;LE</b><br><br><b>2025-26</b> | <b>46 (LE)</b><br><br>277.74(Excluding IDC&FC)<br><br>441.33(Including IDC&FC) | i) Activities covering main equipment i.e. Turbine, Generator, GTs and other plant equipment for efficient and sustained performance of the units as well as station.<br><br>ii) Activities for integration of control, monitoring and protection system of power plant such as Electronic/ Digital Governors, SCADA SAS etc.<br><br>iii) Renovation of Switchyard with capacity enhancement along with replacement of instrument transformers of higher accuracy class, PI, LA, SST etc.                                                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• DPR from CPRI, Bangalore received in the month of June'2018. Financial aspects and levelized tariff finalized and submitted to Management for approval.</li> <li>• Some BoP items like DG set, Firefighting system, Penstock Protection BFV, etc. procured and installed under R&amp;M budget.</li> <li>• CEA has approved Rs. 123.19 Crs. for EM Cost on 05.08.2021 &amp;Rs. 66.62 Crs. for Civil &amp; HM Costs on 02.10.2021 for Renovation and Modernisation.</li> <li>• The plant was inundated in flush flood on 26.03.2022.</li> </ul> |

|  |  |  |                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  | <p>iv) Activities having direct impact on improvement of generator/turbine efficiency, machine availability etc.</p> <p>v) Restoration of components damaged by inundation</p> | <ul style="list-style-type: none"> <li>• A revised estimate for EM package of Rs. 188.42 Crores have been approved by CEA on 18.11.2022.</li> <li>• Revised cost estimate for Civil and HM works amounting to Rs. 89.32 Crores has been approved by the BoD, NEEPCO.</li> <li>• Detailed revised cost estimates for civil and HSM works amounting to Rs. 89.32 crore has been vetted by CEA on March' 2023.</li> <li>• Work for R&amp;M of Khandong E/M Package has been awarded to M/s Voith Hydro Pvt. Ltd.</li> <li>• Civil package has been awarded to M/s Vijetha Engineers &amp; Infrastructures Pvt. Ltd.</li> <li>• HM Package has been awarded to M/s Abir Infrastructure Pvt. Ltd. on 13.10.2023. works completed.</li> <li>• RM&amp;LE works have been completed and both the units have been commissioned successfully.</li> <li>• COD of Unit-I is 13.07.2025</li> <li>• COD of Unit-II is 30.08.2025</li> </ul> |
|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2022-27**

**NORTH EASTERN REGION**

**MEGHALAYA**

**(Amount in Rs. Crores)**

| S. No.                                            | Scheme/ Category/ Completion Target                                                                                                    | Expected Benefit(MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES ONGOING – Under Implementation</b> |                                                                                                                                        |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 22.                                               | <b>Umiam Stage-III,</b><br>(Kyredemkulai)<br>2x30 MW<br>MePGCL<br>1979<br>T&G -<br>BHEL<br><br><b>RMU&amp;LE</b><br><br><b>2026-27</b> | <b>60(LE) +6(U)</b><br><br>408<br><br>262.50      | <b>Mech. Equipment's (Turbine &amp; its auxiliaries):</b><br>- Replacement of Runners, head cover & bottom ring, facing & wearing rings. Guide vanes, guide vane servomotor & gate operating mechanism. Guide bearings, coolers & bearing housing, turbine shaft, shaft seal & sealing box. Upper draft tube & draft tube liner. Inlet valve along with its servomotor & by-pass valve. Governor and turbine control system, oil pressure supply system, compressed air supply system, cooling water supply, drainage & dewatering system, auxiliary machine control etc.<br><br>- Refurbishment of spiral case and stay ring, penstock & by-pass valve etc.<br><br><b>Elec. Equipment (Generator &amp; its auxiliaries):</b><br>- Replacement of stator cores, stator windings & neutral leads. Rotor spoke & rim, rotor winding & excitation leads & rotor pole, Shaft, thrust & guide collars, thrust runner, coupling bolts & coupling cover. Thrust bearing pads. Segment type upper & lower guide bearings and oil coolers. Brake ring & brake/jack system, air cooler, current transformers, fire protection system, instruments & relays, terminal boxes on control cubicle, all cables, AC excitation system, digital AVR & excitation cubicle, excitation transformer etc. | <p>The feasibility study was conducted and completed by JV of TEPSCO &amp; TEPCO, Japan under JETRO grant and IIT Roorkee submitted head measurement studies.</p> <p>An updated DPR as per CEA's recommendation was prepared by MePGCL and posed the scheme for JICA funding through MoP.</p> <p>The Department of Economic Affairs vide letter dated 20.10.2016 requested to confirm the 20 percent Counterpart Funding of the state and also provide the debt sustainability confirmation/self-certification in respect of the 10 percent loan component of the external assistance of 80 percent of the project cost.</p> <p>After completion of the preparatory study, Minutes of Discussion signed among MePGCL, MoP and JICA.</p> <p>Bid document for E&amp;M package prepared. Concurrence on the Bidding Document for E&amp;M package received from JICA on 22.12.2021.</p> <p>The tender for E&amp;M package was floated on 03.01.2022.</p> <p>Concurrence from JICA received on 23.12.2022 for issue of LOA and signing of Contract Agreement with M/s. Andritz Hydro Pvt. Ltd. (AHPL), the single bidder.</p> <p><b>Electro &amp; Mechanical Equipment (Package-1)</b></p> <p>LOA was issued on 12<sup>th</sup> January 2023 to M/s. AHPL and the Contract Agreement was signed between MePGCL and M/s. AHPL on 1<sup>st</sup> March 2023.</p> |

| S. No. | Scheme/ Category/ Completion Target | Expected Benefit(MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------|-------------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                     |                                                   | <ul style="list-style-type: none"> <li>- Refurbishment of upper &amp; lower bearing brackets, top cover, hood and air housing</li> <li>- Replacement of 11 KV metal enclosed cubicles &amp; unit auxiliary transformers, station battery bank &amp; charger etc.</li> <li>- Replacement of generator transformer &amp; instruments, station service transformers, control and protection boards etc.</li> <li>- Replacement of motorized disconnecting switches, CTs, PTs, conductors &amp; accessories for 132 KV switchyard.</li> <li>- Replacement of 12 KV power cables, 600 V power cables, control cables, paint etc.</li> <li>- Civil &amp; Hydro Mechanical Work</li> <li>- Site Installation</li> <li>- Low Pressure Grouting and lining</li> <li>- Repair of Pressure Tunnel</li> <li>- Steel liner Installation</li> <li>- Recoating of penstock</li> <li>- Repair of trash rack and link tunnel</li> <li>- Repair of intake gate</li> <li>- Repair of trash rack</li> <li>- Repair of radial gate</li> <li>- Investigation and Rehabilitation of Dykes and other related item.</li> <li><b>Additional works</b></li> <li>- Repairing of spillway</li> <li>- Dismantling and reconstruction of Penstock Valve House</li> <li>- Repairing of Penstock Drains</li> <li>- Land Reclamation</li> </ul> | <p>Reverse engineering of Unit-1 completed.</p> <p>Dismantling work started from 5<sup>th</sup> April 2025 and-completed.</p> <p>Erection works started on 19.09.2025. Installation works pertaining to all components of both the Units have been completed. Dry commissioning works pertaining to all components of both the Units are presently in progress. Approx. 98% works are completed.</p> <p>Target Completion: September 2026</p> <p><b>Hydro Mechanical &amp; Civil facility (Package-2)</b></p> <p>The tender was floated on 20<sup>th</sup> September 2022 with the initial date of opening on the 21<sup>st</sup> November 2022 and extension was given 4 times due to non-participation of Bidders.</p> <p>Tender floated on 08.06.2024 and pre bid meeting held on 24.06.2024. LOA issued on 2<sup>nd</sup> January, 2025 and Signing of Contract was made on 27<sup>th</sup> January 2025.</p> <p>Civil &amp; HM Works related to water conductor system are in progress. Approx. 56% works are completed.</p> |

**State-wise Status of R&M Schemes  
(During 2027-32)**

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2027-32**

**NORTHERN REGION**

**JAMMU & KASHMIR**

**(Amount in Rs. Crores)**

| <b>S. No.</b>                                  | <b>Scheme/ Category/ Completion Target</b>                                                                                             | <b>Expected Benefit(MW)/ Estimated Cost/ Expenditure</b> | <b>Scope of work</b>                                                        | <b>Present Status</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES ONGOING - Under RLA Studies</b> |                                                                                                                                        |                                                          |                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>1.</b>                                      | <b>Salal Stage-I</b><br>(Unit 1, 2 & 3)<br>3x115 MW<br>NHPC<br>Nov 1987<br>T&G –<br>BHEL<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b> | <b>345 (LE)</b><br><br>-<br><br>-                        | Detailed scope of work will be arrived after finalization of R&M proposal.  | As per the regulations, RMLE of stage-I is to be carried out by 2027 and that of stage-II by 2035.<br>As on date all the generating units are running smoothly. Many of the systems are already renovated/ replaced from time to time resulting into smooth operation of the Power Station. RLA studies of the generating transformers of the Stage-I are also recently been carried out through M/s CPRI, Bangalore, where in there are no major issues in these GTs.                                                                                                                                                                                                                            |
| <b>2.</b>                                      | <b>Salal Stage-II, (Unit 4, 5 &amp; 6)</b><br>3x115 MW<br>NHPC<br>Apr-1995<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>               | <b>345 (LE)</b><br><br>-<br><br>-                        | Detailed scope of works will be arrived after finalization of R&M proposal. | It has been proposed to postpone the RM&LE of Stage-I as of now and RM&LE of the complete Power Station (690 MW, Stage-I&II) in one go is planned w.e.f 2028-29. This way, the uniformity in the make, model rating etc. of the associated equipment and systems can be maintained and requirement of complete shutdown of the Power Station repeatedly, can be avoided.<br><br><b><u>Tentative timelines:</u></b><br>DPR preparation & approval: Jan 2029 to June 2029.<br>Tendering and award activity: November 2029 to April 2030.<br>Start of supply: October 2031.<br>Complete Shutdown: November 2031 to April 2032.<br>Renovation works of Unit 1, 2, 3, 4, 5: From May 2032 to Jan 2035. |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2027-32**

**NORTHERN REGION**

**Himachal Pradesh**

**(Amount in Rs. Crores)**

| S. No.                                       | Scheme/ Category/ Completion Target                                           | Expected Benefit(MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                 | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------|-------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES ONGOING – Under Tendering</b> |                                                                               |                                                   |                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 3.                                           | <b>Pong Power House, 6x66 MW BBMB 1977-83 T&amp;G-BHEL RMU&amp;LE 2028-29</b> | 396 (LE) + 54 (U)<br><br>1198<br>1.15             | Hiring the consultant for preparation of DPR, Tender Specification and to finalize EPC contractor for carrying out RM&U along with Life Extension of 6 Units. | <ul style="list-style-type: none"> <li>• NIT No. 492/PHD/Pong- 359 dated 23.02.2022 has been floated on e-proc.punjab.gov.in and Part-I of the Tender has been opened on 23.06.2022.</li> <li>• Contract Agreement No. 765/PHD/Pong-359 dated 23.08.2023 signed with WAPCOS Ltd. Kick of meeting conducted on 23.08.2023.</li> <li>• DPR for RM&amp;U of Pong HEP from 396MW to 450 MW has been examined by CEA and found to be generally in order.</li> <li>• Technical and commercial specification received from M/s WAPCOS on 17.03.2025 which are under the scrutiny.</li> <li>• Proposal for getting revised Administrative Approval is under process.</li> <li>• M/s WAPCOS has been again requested to review cost estimates and provide the corrected Tender Documents against the comments of Technical and Commercial Specifications submitted by BBMB.</li> <li>• Meeting held with various manufacturers at M/s WAPCOS office, New Delhi for Techno-commercial discussions dated 17.11.2025. Remarks from various manufacturers regarding rated output received.</li> <li>• Revised Administrative Approval is accorded and conveyed vide Spl. Secy BBMB Chandigarh's office memo no. I/9777/2026/B-1550/BPHC/1P dated 04.06.2026.</li> <li>• M/s WAPCOS has been again requested to review cost estimates and provide the corrected and complete drawings and tender doc. Against the comments of Technical and commercial</li> </ul> |

|                                                                            |                                                                                                                                                           |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                            |                                                                                                                                                           |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>Specification submitted by BBMB.</p> <ul style="list-style-type: none"> <li>Draft Tender Documents are under scrutiny.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>B - SCHEMES ONGOING – Under DPR Preparation / Finalisation/Approval</b> |                                                                                                                                                           |                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 4.                                                                         | <p><b>Giri,</b><br/><b>2x30 MW</b><br/><b>HPSEBL</b><br/><b>1978</b><br/><b>T&amp;G</b><br/><b>BHEL</b></p> <p><b>RM&amp;LE</b></p> <p><b>2028-29</b></p> | <p><b>60 (LE)</b></p> <p><b>301.98</b></p> | <p>Brief description of work proposed to be undertaken are as given below: -</p> <p><b>1. Civil works:</b><br/>Repair of power house building &amp; Control Room area and Tail Race Channel. Restoration of Flexible apron, protection works on left bank of upstream side of barrage. Replacement of Spherical roller bearing of spillway gates. Improvement of trash rake, stop logs. Centralized Control of operation of barrage gates from Barrage control room. Strengthening of civil works at Barrage, power house and 132 kV Switchyard, Add. Penstock gate in Surge Shaft.</p> <p><b>2. Mechanical works:</b><br/>Replacement of Guide vanes, Overhauling &amp; replacement of major parts of the MIV, , Replacement of Governors with modern digital governors, Revamping of Cooling water system, waer flow measurement system, replacement of penstock drainage valves and pipes, 3 Nos. new Francis runner (2+1 spare) with high efficiency ranging from (18 to 33) MW capacity.</p> <p><b>3. Electrical works:</b><br/>Replacement of 11 KV Pilca cable with bus duct, Overhauling of 2x40 MVA, 11/132kV Generator Transformers and Unit Auxiliary Transformers, Replacement of Control and Protection panels, Replacement of stator windings with class "F" insulation, O/H of generator, Excitation system, ABCBs and Replacement of 33 kV MOCB with SF6 breaker, Replacement of Batteries and battery charging system.</p> | <p>Revised scheme amounting to Rs.139.80 crore has been framed on the basis of negotiated rates offered by M/s BHEL (OEM) for EM equipment's&amp; balance plant items. Revised administrative approval for Rs. 139.80 Cr. accorded on 30.12.2015. HPERC has accorded 'in principle' approval on 23.05.2017.</p> <p>PFC has funded the scheme on dated 18.05.2020.</p> <p>Revised scheme has been prepared to cover the scope of additional items which were not covered in earlier schemes.</p> <p>Administrative approval amounting to Rs. 440.123 Cr is accorded by HPSEBL on 12.08.2022</p> <p>Funds are being tied up from PFC for revised scheme.</p> <p>Revised scheme was submitted for approval of Hon'ble HPERC on 02.12.2022. Hon'ble HPERC on 22.06.2023 has disposed of the petition as withdrawn with liberty to file a fresh petition. Fresh DPR under Preparation.</p> <p>Now, scheme amounting Rs 301.98 Cr has been prepared and is under sanction.</p> <p>Tentative schedule for completion of R&amp;M works is follow as:</p> <p>Unit-1: 30.09.2027<br/>Unit-2: 28.02.2029</p> |

|    |                                                                                            |                          |                                                             |                                                                                   |
|----|--------------------------------------------------------------------------------------------|--------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 5. | <b>Dehar HEP</b><br>6x165 MW<br>BBMB<br>1977<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b> | <b>990(LE)</b><br>-<br>- | For Renovation, Modernization and Life Extension of the HEP | DPR for Renovation, Modernization and Life Extension of 6 units has been prepared |
|----|--------------------------------------------------------------------------------------------|--------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------|

**C - SCHEMES ONGOING – Under RLA studies**

|    |                                                                                                 |                           |                                                                                                         |                                                                                                                                                                                                                                                                                                         |
|----|-------------------------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6. | <b>Chamera-I,</b><br>3x180 MW<br>NHPC<br>May-1994<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b> | <b>540 (LE)</b><br>-<br>- | Detailed scope of works will be arrived after finalization of specifications based on RLA study report. | The RLA Studies shall be taken up during 2028-29.<br><b><u>Tentative timelines:</u></b><br>DPR preparation & approval: Oct 2030 to March 2031.<br>Tendering and award activity: July 2031 to March 2032.<br>Start of supply: October 2033.<br>Renovation works of Unit 1, 2 & 3: May 2034 to July 2035. |
|----|-------------------------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2027-32**

**NORTHERN REGION**

**Punjab**

**(Amount in Rs. Crores)**

| S. No.                                       | Scheme/ Category/ Completion Target                                                                                                                                                                               | Expected Benefit(MW) / Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES ONGOING – Under Tendering</b> |                                                                                                                                                                                                                   |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 7.                                           | <b>UBDC St.I &amp; St II,</b><br>3x15 MW (St.-I) & 3x15.45 MW (St.-II)<br>PSPCL<br>1971-73 (St.-I) & 1989-92 (St.-II)<br>St. I<br>T&G-AEI, UK<br>St.-II<br>T&G-BHEL<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b> | <b>91.35 (LE)</b><br><br>-                         | <b>Turbine and associated accessories-</b> Replacement of Runner assembly, Repair of stay vanes. New turbine, Guide vanes, Bushes with bush housing, Head cover & Bottom Ring needs to be replaced. Repair of Spiral casing and stay vanes, draft tube cone, installation of Online vibration monitoring system, Replacement of existing dial thermometer and thermostats, Replacement of brake and jack pad assembly.<br><b>Generator and Auxiliaries-</b> Replacement of stator, Rotor, Generator shaft, static excitation system, Generator Air cooling system, Jacking and braking system, Upper bracket, Lower Bracket. Installation of auto synchronizing equipment, Online Generator air gap measurement system, Auto sequence and logic controls-Unit automation panels (LCU/UCB) & supervisory control and data acquisition system (SCADA) for control and monitoring.<br><b>Balance of Plant (MECHANICAL)-</b> Replacement of the compressed air system, cooling water system, static dewatering drainage system, power house E.O.T Crane –I set and fire detection and alarm system.<br><b>Balance of (ELECTRICAL)-</b> Up-gradation/replacement of the DC system, UPS system, Station service supply system, Surveillance system , HVAC system, HT/LT power, control and Instrumentation cables, Illumination, Energy meter for electrical consumption on account of station auxiliaries, instrument transformers, CT,PT,CVT for generators, feeders & bus bar side, LA/ surge arrestors, Isolators. | Administrative approval to carry out RLA & RMU study has been accorded by WTDs.<br><br>2 no. tenders having TE 288 dt. 30.06.2022 and TE 297 dt. 1.12.2022 dropped on due to high prices offered by the L-1 firm.<br><br>Price Bids of 3 no. bids against Fresh TE no. 300 dt. 16.05.2023 opened on 03.10.2023 and Reverse Auction conducted on same day. M/s Sharp Hydro Engineering Pvt. Ltd., Faridabad is L-1.<br><br>Work order no. 124 dt. 6.11.2023 amounting to Rs. 52.24 Lac. has been placed on M/s Sharp Hydro Engineering Pvt. Ltd., Faridabad. Various test for RLA study completed by the firm at site, the firm submitted the final DPR on 16/05/2025.<br><br>As per decision of BoDs of PSPCL, DPR submitted by the firm has been approved on 23.09.2025. Draft Technical Specification are under preparation by the firms. |

| S. No.                                             | Scheme/ Category/ Completion Target                                                                                                                                                                                                            | Expected Benefit(MW) / Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                        | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>B - SCHEMES ONGOING – Under DPR Preparation</b> |                                                                                                                                                                                                                                                |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 8.                                                 | <b>Anandpur Sahib Hydel Project – I&amp;II,</b><br>4x33.5 MW<br>(2x33.5 MW PH-I, 2x33.5 MW PH-II)<br>PSPCL<br>1985-86<br>T&G – BHEL<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>                                                              | <b>134 (LE)</b><br><br>-                           | Studies for Renovation, Modernization & Uprating (RMU) & Life Extension (LE) work of 4x33.5 MW Hydro Generating Machines of Anandpur Sahib Hydel Project -Preparation of DPR including measurement of input energy parameters (head, discharge etc.), Scope of work, Technical Specifications & Tender Document.<br><br>Scope of work will be finalized after acceptance of the report, submitted by the consultant. | T.E No. 286/ASHP/ DPR dt. 30.05.2022 was dropped as per decision of competent authority due to lack of eligible firms on dated 09.02.2023.<br><br>Part-I and II of Fresh TE no. 301 dt. 17.05.2023 opened on 14.09.2023. Techno-commercial evaluation of following 3 no. bids is under process:<br>i) M/s Sharp Hydro Engineering Pvt. Ltd., Faridabad<br>ii) M/s WAPCOS Ltd., New Delhi<br>iii) M/s MECON Limited, Ranchi<br><br>Price bids have been opened on 09.01.2024.<br><br>PO/WO no. 118 dt. 07.06.2024 amounting to Rs. 49.05 lacs has been placed on M/s Sharp Hydro Engineering Pvt. Ltd., Faridabad. Various tests carried out by the firm at site. The firm submitted final DPR which is under approval. |
| 9.                                                 | <b>Mukerian HEP,</b><br>3x15 MW (St.-I),<br>3x15 MW (St.-II), 3x19.5 MW (St.-III) & 3x19.5 MW (St.-IV)<br>PSPCL<br>1983 (St.-I),<br>1988-89 (St.-II),<br>1989 (St.-III) & (St.-IV)<br>T&G - BHEL<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b> | <b>207 (LE)</b><br><br>-                           | Preparation of feasibility studies for uprating, study of available input energy, head & discharge, preparation of DPR as per latest CEA guidelines, preparation of complete Scope of Work & Technical Specification, Bid/Tender stage Document.<br><br>Scope of work will be finalized after acceptance of the report, submitted by the consultant.                                                                 | Administrative approval to carry out RLA & RMU study has been accorded by WTDs. Following 3 no. tenders were received and opened on 06.12.2022 against TE no. 296 dated 28.10.2022:<br>i) M/s Tata Consulting Engineers Limited., Mumbai<br>ii) M/s Mecon Ltd. Ranchi.<br>iii) M/s WAPCOS Ltd., New Delhi.<br><br>Work order no. 121 dt. 26.05.2023 amounting to Rs. 2.124 Cr. has been placed on M/s WAPCOS Ltd., New Delhi. Testing completed by the firm on 15/05/2025.<br>The firm submitted the draft DPR on 12.09.2025 and comments on which were given by the O/o Dy CE/O&M, Circle,                                                                                                                            |

| S. No.                                        | Scheme/ Category/ Completion Target                                                                                                                                                     | Expected Benefit(MW) / Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                         | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                               |                                                                                                                                                                                         |                                                    |                                                                                                                                                                                                                                                                                                                                                                       | Talwara on 23.10.2025. The firm submitted the revised DPR against these comments on 17/03/26. Comments on which were given by the O/o Dy CE/O&M, Circle, Talwara on 13.04.2026. Revised DPR awaited from the firm.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>B- SCHEMES ONGOING – Under RLA Studies</b> |                                                                                                                                                                                         |                                                    |                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>10.</b>                                    | <b>Shanan HEP,</b><br>4x15 MW+1x50 MW<br>PSPCL<br>1932(U1 to U4)<br>T - GanzMavag, Hungary<br>G – BTH, UK<br>1982 (U5-extn)<br>T&G - BHEL<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b> | <b>110 (LE)</b>                                    | To conduct RLA studies, detailed feasibilities studies and preparation of Detailed Project Report along with specifications for :-<br>a) up-rating of 4x15 MW & 1x50 MW machines,<br>b) rehabilitation & uprating of House Generator Set of 648 KVA ,<br>c) Setting up a mini/ small hydel power plant at existing head works at Barot, PSPCL, Joginder Nagar (H.P.). | Administrative approval to carry out RLA & RMU study has been accorded by WTDs. Two number of tenders were received and opened on 09.11.2022 against TE no. 287 dated 30.05.2022:<br>i. M/s Sharp Hydro Engineering Pvt. Ltd.<br>ii. M/s WAPCOS Ltd., New Delhi.<br><br>TE no. 287 dt. 30.05.2022 dropped due to unsuitability of bids. Part-I and II of Fresh TE no. 305 dt. 04.08.2023 opened on 23.02.2024. Techno-commercial evaluation of following 2 no. bids is completed:<br>i) M/s WAPCOS Ltd., New Delhi<br>ii) M/s MECON Limited, Ranchi<br><br>WO no.129 dt. 30.10.2024 amounting to Rs. 4.65 Cr. has been placed on M/s MECON Limited, Ranchi. Various tests are being carried out by the firm at site.<br><br>Draft RLA report has been submitted by M/S MECON Ltd. based upon NDTs. Some civil NDTs work at Barot valley on dam, gate, spillways, channel wall etc. are pending and inspection of head race tunnel is also pending. Further draft RLA report is under review and consideration of the O/o SE/ Shanan. |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2027-32**

**NORTHERN REGION**

**UTTARAKHAND**

**(Amount in Rs. Crores)**

| S. No.                                            | Scheme/ Category/ Completion Target                                                                                                      | Expected Benefit(MW)/ Estimated Cost/ Expenditure       | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES ONGOING - Under Implementation</b> |                                                                                                                                          |                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>11.</b>                                        | <b>Chilla (PH-B),</b><br>4x36 MW<br>UJVNL<br>1980(U-1 to 3)<br>1981(U-4)<br>T&G –<br>BHEL<br><br><b>RMU&amp;LE</b><br><br><b>2028-29</b> | 144 (LE) +<br>12 (U)<br><br>459.98<br><br><b>143.00</b> | <ul style="list-style-type: none"> <li>Replacement of existing Kaplan turbine and their complete auxiliaries, replacement of existing generators. Complete replacement of switchyard equipment along with Power Transformer except 132 kV Circuit Breakers, Replacement of 11 kV system, New Excitation system, New Electronic Governors, new control metering &amp; protection system &amp; SCADA, HM Works and Civil Works.</li> <li>Up-rating from 4x36 MW i.e. 144 MW to 4x3 9 i.e. 156 MW.</li> </ul> | <ul style="list-style-type: none"> <li>Capital Investment approval accorded by UERC on 29.01.2016.</li> <li>Tender document has been uploaded vide Tender No. 01/DGM/M&amp;U- GV/2018-19 on 09.01.2019.</li> <li>LOI issued to L-1 bidder M/s BHEL on 30.10.2019 &amp; UJVNL Ltd., received acceptance letter from M/s BHEL on 07.11.2019.</li> <li>Effective date of start of contract is 01.02.2020.</li> <li>Turbine model testing has been completed in April, 2023. Load Test on 50/10 T EOT crane performed successfully on 06.11.2023. Load Test on 200/30 T EOT crane performed successfully on 17.02.2024.</li> <li>Design &amp; Engineering work is completed.</li> <li>Shutdown of Unit -I (M/c No -4) taken by M/s BHEL for RMU works on 07.11.2024.</li> <li>Stator winding, rotor winding and installation of governing equipment like PP set, Nitrogen bottle bank, EHMC (Electro Hydro Mechanic Cabinet), GP (Gauge Panel), installation of static excitation system, Rotor pole mounting, Pole to pole connection of Rotor installation of Unit Control Board (UCB), Instrumentation Panel (IP) and Stringing of 132kV conductors in a bay 4 etc. has been completed.</li> <li>New runner chamber received at site on 07.12.2025.</li> <li>Erection of 1<sup>st</sup> Machine (Unit No 4) after RMU has been completed, and testing works are in progress.</li> </ul> |

| S. No.                                | Scheme/ Category/ Completion Target                                                                        | Expected Benefit(MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                 | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                       |                                                                                                            |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"><li>Overall RMU activities are scheduled to be completed in May, 28.</li><li>Tentative schedule for completion of R&amp;M works is follow as<ul style="list-style-type: none"><li>Unit#1- 01.06.2026 to 31.01.2027</li><li>Unit#2- 01.02.2027 to 31.09.2027</li><li>Unit#3- 01.10.2027 to 31.05.2028</li></ul></li><li>Physical progress: 53.0%</li><li>Financial Progress: Rs. 143.00 Cr</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| B - SCHEMES ONGOING – Under Tendering |                                                                                                            |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 12.                                   | <b>Kulhal,</b><br>3x10 MW<br>UJVN LTD.<br>1975<br>T&G - BHEL<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b> | <b>30(LE)</b><br><br>120.89<br><br>NIL            | <ul style="list-style-type: none"><li>Replacement of Runner chambers, Guide vanes, runner assembly, distributor assembly, turbine shaft, turbine guide bearing etc.</li><li>Replacement of Governors, Stator core &amp; winding, rotor pole assembly, Generator shaft etc.</li><li>Replacement of excitation system, Generator Transformers, TRCM, Drainage &amp; Dewatering system, MV system SCADA system and control cables etc.</li></ul> | <ul style="list-style-type: none"><li>LoI issued to M/s Gogoal-Emeco (Consortium) on 04.03.2014. UERC declined approval vide order dtd. 13.03.2015 with the advice that on account of obsolescence of protection equipment, suitable proposal be mooted. UJVNL approached commission with suitable modifications. However, UERC declined Investment approval vide order dated 11.02.2016 due to better availability of the machines.</li><li>Appeal has been filed in the Appellant Tribunal New Delhi on 23.03.2016.</li><li>Appeal has been disposed of by the Appellate Tribunal, New Delhi vide order dated 04.09.2024 with the direction to move petition, afresh, based on fresh DPR prepared on the basis of current requirements of RMU and submitted for approval.</li><li>New DPR of Rs.120.89 Cr. was approved in 123<sup>rd</sup> BOD.</li><li>Petition of investment approval for RMU Works has been filed on 30.12.2024 before Hon’ble UERC and is under scrutiny.</li><li>In compliance to Observation raised by Hon’ble UERC. Vide letter dated 28.10.2025, reply submitted on 21.11.2025.</li><li>Representatives of UERC and UJVNL performed a joint inspection of Kulhal Power House on 07 March, 2026.</li></ul> |

| S. No.                                                                  | Scheme/ Category/ Completion Target                                                                    | Expected Benefit(MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                  | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                         |                                                                                                        |                                                   |                                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• A presentation for investment approval was made before the Hon'ble UERC on 10<sup>th</sup> April 2026.</li> <li>• Supplementary replies were submitted to the Hon'ble UERC along with the requisite information on 25.04.2026 &amp; 19.05.2026.</li> <li>• The investment approval for RMU of Kulhal Hydro Power Station was accorded by the Hon'ble UERC vide order dated 02.06.2026.</li> <li>• NIT for RMU works of Kulhal Hydro Power Station published on 03.06.2026.</li> <li>• Tender for the RMU of Kulhal Hydro Power Station published on the e-Government procurement portal on 30.06.2026.</li> </ul>                      |
| <b>C- SCHEMES ONGOING - Under DPR Preparation/Finalisation/Approval</b> |                                                                                                        |                                                   |                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 13.                                                                     | <b>Ramganga,</b><br>3x66 MW<br>UJVNL<br>1976<br>T&G-BHEL<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b> | <b>198 (LE)</b><br><br>-<br>-                     | <ul style="list-style-type: none"> <li>• Replacement of runner, rehabilitation of generators, installation of intake hoisting arrangement, installation of DT gantry crane, 11 kV Circuit Breakers, control protection and replacement of Switchyard equipment, instrumentation, governors, pumps and life extension of units based on RLA studies.</li> </ul> | <ul style="list-style-type: none"> <li>• DPR was prepared in-house and was reviewed by AHEC, IIT Roorkee. Specifications were vetted by AHEC. Tender on turnkey basis floated on e-portal.</li> <li>• Tender has been scrapped as UERC declined Investment approval on 12.02.2016.</li> <li>• Appeal has been filed in Hon'ble Appellate Tribunal, New Delhi on 23.03.2016.</li> <li>• Appeal has been disposed of by the Appellate Tribunal, New Delhi vide order dated 04.09.2024 with the direction to move petition, afresh, based on fresh DPR prepared on the basis of current requirements of R&amp;M.</li> <li>• Preparation of fresh DPR is under progress.</li> </ul> |

| S. No.                                         | Scheme/ Category/ Completion Target                                                                                                 | Expected Benefit(MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                           | Present Status                                                                                                                                                                                                                                                      |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>D - SCHEMES ONGOING - Under RLA Studies</b> |                                                                                                                                     |                                                   |                                                                                                         |                                                                                                                                                                                                                                                                     |
| <b>14.</b>                                     | <b>Tanakpur,</b><br>3x31.4 MW<br>NHPC<br>Apr-1993<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>                                     | <b>94.2 (LE)</b><br>-<br>-                        | Detailed scope of works will be arrived after finalization of specifications based on RLA study report. | The RLA Studies shall be taken up during 2028-29.<br>DPR preparation & approval: Jan 2029 to June 2029.<br>Tendering and award activity: Oct 2029 to March 2030.<br>Start of supply: September 2031.<br>Renovation works of Unit 1, 2 & 3: April 2032 to June 2033. |
| <b>15.</b>                                     | <b>Chibro,</b><br>4x60 MW<br>UJVNL<br>1975 (Unit 1 to 3)<br>1976 (Unit 4)<br>T&G-BHEL<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b> | <b>240 (LE)</b><br>-<br>-                         | Detailed scope of works will be arrived after finalization of specifications based on RLA study report. | Proposed to be taken up for RMU in next phase.                                                                                                                                                                                                                      |
| <b>16.</b>                                     | <b>Khodri,</b><br>4x30 MW<br>UJVNL<br>1984<br>T&G-BHEL<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>                                | <b>120 (LE)</b><br>-<br>-                         | Detailed scope of works will be arrived after finalization of specifications based on RLA study report. | Proposed to be taken up for RMU in next phase.                                                                                                                                                                                                                      |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2027-32**

**NORTHERN REGION**

**RAJASTHAN**

**(Amount in Rs. Crores)**

| S. No.                                    | Scheme/ Category/ Completion Target                                                                                                                      | Expected Benefit(MW)/ Estimated Cost/ Expenditure               | Scope of work                                                                                                                                                   | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A. Scheme Ongoing- Under Tendering</b> |                                                                                                                                                          |                                                                 |                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 17.                                       | <b>Rana Pratap Sagar,</b><br>4x43 MW<br>RRVUNL<br>1970<br>T- Johnson & Co.<br>G- General Electric, Canada<br><br><b>RMU&amp;LE</b><br><br><b>2027-32</b> | <b>172 (LE)</b><br>+<br><b>6 (U)</b><br><br>264.52<br><br>57.52 | Renovation, Modernization & Uprating (RM&U) with new Turbine and Generator Set of Rana Pratap Sagar Hydro Power Project (4 x 44.5 MW) at Rawatbhata, Rajasthan. | 1. Detailed Project Report of RMU Work for Generators of RPSPS has submitted by M/s SHEPL-BHEC (Joint Venture), Faridabad.<br><br>2. Final DPR of RMU has been approved. Final tender document submitted by M/s Mecon Ltd. Ranchi is under Discussion.<br><br>3. Work of designing, manufacturing, supply, erection, testing and commissioning of complete generator, rotor and its associated accessories of Unit #2, RPS has been completed. Overhauling work of turbine and replacement of existing governing system & auxiliaries of Unit#2 of RPS PS, Rawatbhata has been completed.<br><br>4. Unit #2 of RPS has been uprated to 44.5 MW with new generator and its auxiliaries, new digital governor and SCADA system on 19.02.2025<br><br>5. Present Status of remaining units are as follows:<br>Unit#1 Proposal under approval.<br>Unit#4 Proposal under Process.<br>Unit#3 Proposal yet to be processed<br><br>1. Completion Schedule:<br><br>Unit#1- Dec-2027<br>Unit#3- Dec-2028<br>Unit#4- Dec-2029 |

**B - SCHEMES ONGOING - Under RLA Studies**

|            |                                                                                                                                                                                                                     |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>18.</b> | <b>Jawahar Sagar Power Station</b><br><b>(3x33 MW)</b><br><b>RRVUNL</b><br>1972-73<br>T- Canadian<br>Alis<br>Chalmers,<br>Canada<br>G- General<br>Electric,<br>Canada<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b> | <b>99 (LE)</b><br><br>-<br><br>- | <p>Conducting Residual Life Assessment study and Uprating study on Turbines, Generators and Power House Auxiliaries including civil structures of one unit of JSHPS to examine the feasibility to go for Renovation and Modernization or Renovation, Modernization and uprating of all machines at JSHPS, Jawahar Sagar (3 x 33MW).</p> <p>Also DPR Preparation along with preparation of tender documents and bid evaluation.</p> | <ul style="list-style-type: none"> <li>• Tender for hiring of consultancy services for one Unit (1x33MW) of JSHPS, which include RLA studies including complete civil structure of JSHPS, DPR preparation with RMU recommendation of all three units, has been prepared and floated.</li> <li>• Technical and price BID opened and Letter of Intent(LOI) of Rs 1,18,84,069.00 including GST has been awarded to M/s Rotodyne Engineering Service Pvt. Ltd. on 19.09.2025.</li> <li>• Work Order Dtd. 08/10/2025 issued to M/s Rotodyne Engineering services Pvt. Ltd., Hyderabad for the work of consultancy services for conducting RLA study at JSPS, Jawahar Sagar.</li> <li>• Preliminary visit of firm's Engineers/Representative was conducted on 18th and 19th March 2026, pursuance is being made for early mobilization of Rotodyne team.</li> <li>• Unit#3 of JSPS, Jawahar Sagar has been handed over for carrying out RLA study on 04.05.2026.</li> </ul> |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2027-32**

**WESTERN REGION**

**MADHYA PRADESH**

**(Amount in Rs. Crores)**

| S. No.                                            | Scheme/ Category/ Completion Target                                                                                                                                                                                     | Expected Benefit(MW)/ Estimated Cost/ Expenditure                   | Scope of work                                                                                                                       | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES ONGOING - Under Implementation</b> |                                                                                                                                                                                                                         |                                                                     |                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>19.</b>                                        | <b>Gandhi Sagar,</b><br>5x23 MW<br>MPPGCL<br>1960-66<br><u>Units 1,2&amp;3</u><br>T – JM Voith<br>G – Siemens,<br>WG,<br><u>Units 4&amp;5</u><br>T&G – Hitachi,<br>Japan<br><br><b>RMU&amp;LE</b><br><br><b>2029-30</b> | <b>115 (LE)</b><br>+<br><b>10.82 (U)</b><br><br>464.55<br><br>32.04 | <ul style="list-style-type: none"> <li>Replacement of Generators, Turbine runner, Guide Vanes and associated auxiliaries</li> </ul> | <ul style="list-style-type: none"> <li>Gandhi Sagar HPS was commissioned between 1960 &amp; 1966. All the units with associated auxiliaries system submerged on 14.09.2019 due to over flooding of Dam. The RLA studies had been carried out by WAPCOS. As units have already served their useful life, hence it is decided to go for comprehensive R&amp;M of the units. Services of WAPCOS have been availed as consultant.</li> <li>DPR of R&amp;M was approved by Board of MPPGCL. However after discussion held with CEA on 07.09.2022 scope of work has been revised.</li> <li>Revised DPR for R&amp;M and Uprating with estimated cost of Rs. 464.55 has been approved.</li> <li>Tender for comprehensive R&amp;M of Gandhi Sagar HPS has been opened on 31<sup>st</sup> July 2024. Only Single firm i.e. M/s flovel energy Pvt. Ltd. has submitted the bid.</li> <li>LoA has been issued to M/s Flovel Energy Pvt. Ltd. Faridabad on 28.07.2025.</li> <li>Reverse engineering activities for Unit#3 &amp; Unit#2 are under progress.</li> </ul> |
| <b>B. SCHEMES ONGOING -Under Tendering</b>        |                                                                                                                                                                                                                         |                                                                     |                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>20.</b>                                        | <b>Bargi,</b><br>2x45 MW<br>MPPGCL<br>1988<br>T&G – BHEL<br><br><b>RMU&amp;LE</b><br><br><b>2029-30</b>                                                                                                                 | <b>90 (LE)</b><br>+4 (U)<br><br>249.81<br><br>-                     | Replacement of Generators, Turbine runner, Guide Vanes and associated auxiliaries.                                                  | <ol style="list-style-type: none"> <li>RLA study has been completed by MECON Ltd., Ranchi.</li> <li>DPR amounting to RS. 249.81 Cr has been approved by BoD of MPPGCL.</li> <li>Consent on DPR from MPPMCL (the beneficiary of project) is received.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| S. No.                                                                    | Scheme/ Category/ Completion Target                                                                                               | Expected Benefit(MW)/ Estimated Cost/ Expenditure | Scope of work                                                                     | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                           |                                                                                                                                   |                                                   |                                                                                   | 4. Tender for R&M has been issued on 22.12.2025<br>5. Pre-bid meeting convened in Jan-2026.<br>6. Pre-bid query resolutions uploaded on 28.02.2026.<br>7. Due Date for bid submission extended up to 28.07.2026                                                                                                                                                                                                                                                                                                                                   |
| <b>C - SCHEMES ONGOING - Under DPR Preparation/ Finalisation/Approval</b> |                                                                                                                                   |                                                   |                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 21.                                                                       | <b>Pench</b><br>2x80 MW<br>MPPGCL<br>1986-87<br>T&G –<br>BHEL<br><br><b>RMU&amp;LE</b><br><br><b>2029-30</b>                      | <b>160 (LE) + 2.5 (U)</b><br><br>556.52<br><br>-  | Replacement of Generators, Turbine runner, Guide Vanes and associated auxiliaries | 1. RLA study has been completed by WAPCOS Ltd.<br>2. Order for hiring consultant for preparation of DPR & tender document and providing Project Monitoring Consultancy is issued to M/s WAPCOS on 10 August' 2023.<br>3. DPR amounting to Rs. 556.52 Cr has been approved by BoD of MPPGCL.<br>4. Consent on DPR has been received from MPPMCL (the beneficiary of project) on 10.06.2025.<br>5. DPR has been shared with WRD, Maharashtra. Consent on DPR from Govt. of Maharashtra (being 1/3 <sup>rd</sup> partner of the project) is awaited. |
| <b>D - SCHEMES ONGOING - Under RLA Study</b>                              |                                                                                                                                   |                                                   |                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 22.                                                                       | <b>Bansagar</b><br><b>Tons-I,</b><br>3x105 MW<br>MPPGCL<br>1991-92<br>T&G –<br>BHEL<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b> | <b>315 (LE)</b><br><br>-<br><br>-                 | RLA study of Unit No. 2                                                           | • Draft RLA study report received from M/s Mecon.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations during 2027-32**

**WESTERN REGION**

**GUJARAT**

**(Amount in Rs. Crores)**

| S. No.                                            | Scheme/ Category/ Completion Target                                                                                        | Expected Benefit (MW)/ Estimated Cost/ Expenditure              | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                         | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES ONGOING - Under Implementation</b> |                                                                                                                            |                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 23.                                               | <b>Kadana PSS, 4x60 MW GSECL Units 1&amp;2 1989-90 T&amp;G-Skoda Units 3&amp;4 1998-99 T&amp;G-BHEL RMU&amp;LE 2027-32</b> | <b>240 (LE) +20 (U)</b><br><br><b>89.82</b><br><br><b>51.44</b> | Plant Design, Engineering, Manufacture, Shop testing, Supply, Transportation, Storage, Erection, Testing, Commissioning and PG Test for Renovation, Modernization & Uprating of 4x60 MW<br><br>i) Upgradation of existing governing system with new digital governing system for unit 3 & 4.<br><br>ii) RLA of Civil super Structure of Power House above ground of all units.<br><br>iii) R&M of Kadana unit to run in pumping mode. | <ul style="list-style-type: none"> <li>GSECL had published tender GSECL/ PP/PMI/Kadana/PSP/ on 18.10.2022 for EPC basis for complete R&amp;M work of 4x60MW KHEP Units. The tender did not achieve the expected outcome. Hence, the tender under reference stands cancelled with effect from 03.06.2023.</li> <li>Microprocessor panels' inspection/ FAT done at Bangalore.</li> <li>All supply received in Jan' 2024</li> <li>Installation in unit # 3 completed.</li> <li>Upgradation of existing governing system with new digital governing system for unit no 4 Work under progress and E&amp;M tripping test work will be completed in the month of July-2026.</li> <li>Work Completed.</li> <li>GSECL floated a tender on 12.06.2023 for appointment of PMC for preparation of R&amp;M Feasibility Study &amp; DPR, EPC tendering, evaluation, finalization, and design, engineering, erection &amp; commissioning (E&amp;C) supervision for uprating of 4x60 MW Kadana PSP. Pre-bid meeting was held on 27.06.2023; Technical Bid opened on 17.08.2023 and approved after scrutiny; Price Bid opened on 17.11.2023.</li> <li>A high-level meeting between GSECL (MD &amp; ED) and OEM (BHEL) was held to operationalize Kadana HEP in pump mode, wherein it was decided to execute the works through BHEL.</li> </ul> |

| S. No. | Scheme/ Category/ Completion Target | Expected Benefit (MW)/ Estimated Cost/ Expenditure | Scope of work | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------|-------------------------------------|----------------------------------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                     |                                                    |               | <ul style="list-style-type: none"> <li>• BHEL engineers visited Kadana HEP and GSECL Corporate Office and submitted their report on 22.05.2024. The scope of work was confirmed by GSECL on 01.06.2024.</li> <li>• After due correspondence, BHEL submitted the final offer on 04.01.2025 for revival of pumped-mode operation for one unit, including replacement of DCS and installation of SFC for all four units of Kadana HEP.</li> <li>• Based on the offer, LOA was issued on 13.02.2025. Subsequently, the Letter of Award for R&amp;M of one unit of Kadana PSP for pump-mode operation was issued to M/s BHEL on 13.03.2025.</li> <li>• The machine (Unit-1) is under R&amp;M activity since 27.11.2025.</li> <li>• Dismantling work was completed on 29.01.2026.</li> <li>• Review the newly identified scope and the separate work order issued to BHEL on 05.06.2026.</li> <li>• The runner has been shifted to the BHEL Bhopal site for overhauling work and the work is currently in progress.</li> </ul> |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations during 2027-32**

**WESTERN REGION**

**MAHARASHTRA**

**(Amount in Rs. Crores)**

| <b>S. No.</b>                                  | <b>Scheme/ Category/ Completion Target</b>                                                               | <b>Expected Benefit(MW )/ Estimated Cost/ Expenditure</b> | <b>Scope of work</b>                                                                                  | <b>Present Status</b>                                                                                                                                                                                                                                            |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES ONGOING - Under RLA Studies</b> |                                                                                                          |                                                           |                                                                                                       |                                                                                                                                                                                                                                                                  |
| <b>24.</b>                                     | <b>Vaitarna, (1x60) MSPGCL, 1976</b><br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>                       | <b>60 (LE)</b><br><br>-<br><br>-                          | Detailed scope of work will be arrived after finalization of specification based on RLA study report. | Budgetary offers for carrying out RLA study has been sought by MSPGCL. However, offers are still awaited. After receipt of budgetary offers, RLA study will be carries out & based on RLA study recommendations, Renovation & Modernization will be carries out. |
| <b>25.</b>                                     | <b>Koyna Dam foot (Right Bank), (2x20) MSPGCL, 1980-81</b><br><br><b>RM&amp;LE</b><br><br><b>2027-32</b> | <b>40 (LE)</b><br><br>-<br><br>-                          | Detailed scope of work will be arrived after finalization of specification based on RLA study report. |                                                                                                                                                                                                                                                                  |
| <b>26.</b>                                     | <b>Koyna St-3, (4x80) MSPGCL, 1975-78</b><br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>                  | <b>320 (LE)</b><br><br>-<br><br>-                         | Detailed scope of work will be arrived after finalization of specification based on RLA study report. |                                                                                                                                                                                                                                                                  |
| <b>27.</b>                                     | <b>Tillari (1x60 MW) MSPGCL 1986</b><br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>                       | <b>60 (LE)</b>                                            | Detailed scope of work will be arrived after finalization of specification based on RLA study report. |                                                                                                                                                                                                                                                                  |
| <b>28.</b>                                     | <b>Bhira Tail race (2 x 40), MSPGCL 1987-88</b><br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>            | <b>80 (LE)</b>                                            | Detailed scope of work will be arrived after finalization of specification based on RLA study report. |                                                                                                                                                                                                                                                                  |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2027-32**

**SOUTHERN REGION**

**TELANGANA**

**(Amount in Rs. Crores)**

| <b>S. No.</b>                                     | <b>Scheme/ Category/ Completion Target</b>                                                             | <b>Expected Benefit (MW)/ Estimated Cost/ Expenditure</b> | <b>Scope of work</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Present Status</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES ONGOING - Under Implementation</b> |                                                                                                        |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>29.</b>                                        | <b>Pochampad HPS Stage -1, 3x9 MW TSGENCO 1987-88 T- BHEL G-BHEL<br/><br/>R&amp;M<br/><br/>2027-32</b> | <b>-<br/><br/>17.09<br/>1.291</b>                         | <ol style="list-style-type: none"> <li>1. Supply, erection, testing and commissioning of 3 sets of Digital Automatic Voltage Regulator (DAVR) based Static excitation equipment (SEE) for Generating Units # 1, 2 &amp; 3 and Dismantling of Existing AVR's of HPS.</li> <li>2. Supply, erection, testing and commissioning of New Microprocessor based Digital Governor Controller (EHGC) and dismantling of existing old EHGC panels.</li> <li>3. Design, Manufacture, Inspection, Shop testing, Packing &amp; forwarding, Insurance, Transportation to site stores, Installation and training of the Testing equipment AUTOMATIC CAPACITANCE AND TAN DELTA TEST SET for Hydro Power station, Pochampad.</li> <li>4. Design, Manufacture, Inspection, Shop testing, Packing &amp; forwarding, Insurance, Transportation to site stores, Installation and training of the Testing equipments AUTOMATIC NUMERICAL RELAY TESTING KIT for Hydro Power station, Pochampad.</li> </ol> | <ul style="list-style-type: none"> <li>• Tender invited on e-procurement platform, Technical bid opened on 03.07.2025.—Technical bid evaluation completed. Purchase order to be placed.</li> <li>• LOI dated 03.07.2025 issued to M/s Mahati Industries Pvt. Ltd. Drawing approved. Material is to be received.</li> <li>• PO Placed on M/s Eltel Industries, material received.</li> <li>• PO Placed on M/s Megger India Pvt. Ltd., material is received</li> </ul> |

| S. No. | Scheme/ Category/ Completion Target | Expected Benefit (MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|-------------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                     |                                                    | <p>5. Supply, erection, testing and commissioning of advanced numerical protection relay panels with Time synchronizing feature along with DR Evaluation Unit with required hardware and software along with recommended spares for protection of generator, generator transformer and UAT/Excitation transformer for Units # 1,2 and 3</p> <p>6. Procurement of Latest auto Sequencer System for unit 1, 2 and 3.</p> <p>7. Procurement of Field Instrument for Unit-1,2 &amp;3.</p> <p>8. Procurement of certain cables for upgradation works.</p> | <ul style="list-style-type: none"> <li>• PO Placed to M/s. Scope T&amp;M Pvt. Ltd., Mumbai. Erection, testing and commissioning of protection panels for Unit-I, II &amp; III completed on 05.02.2024.</li> <li>• LOI is issued on M/s Adarsha Control &amp; Automation Pvt Ltd., Bengaluru. Drawing approved. Material is to be received.</li> <li>• Purchase order placed has been placed on M/s Sapcon Instruments, M/s Tech Masters, M/s Kemplast Process Solutions and M/s Maars Technologies. Material is received. Installation &amp; Commissioning of Instruments is under progress.</li> <li>• Tender Invited. Bid evaluation is under progress.</li> </ul> |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2027-32**

**SOUTHERN REGION**

**ANDHRA PRADESH**

**(Amount in Rs. Crores)**

| S. No.                                            | Scheme/ Category/ Completion Target                                                                                                                                                                                                                                             | Expected Benefit (MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES ONGOING - Under Implementation</b> |                                                                                                                                                                                                                                                                                 |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 30.                                               | <b>Upper Sileru Power House,</b><br>4x60 MW<br>APGENCO<br>1967-1968 (St.-I) &<br>1994-1995 (St.-II)<br>St.-I:<br>T- M/s<br>Excherwyss,<br>Charmilies<br>Switzerland<br>G – M/s<br>Oerlikon,<br>Switzerland<br>St.-II:<br>T - BHEL<br>G – BHEL<br><br><b>R&amp;M<br/>2027-28</b> | <b>240 (LE)</b><br><br>22.39<br><br>1.081          | <b><u>Completed</u></b><br>a) Supply, Erection, Testing & Commissioning of Micro Processor based Dual Channel Static Excitation System (Digital AVR's). & Governor<br><br><b><u>Under Progress E&amp;M Works</u></b><br>a) Replacement of existing 250 KVA DG set with 600 KVA DG set at Power House.<br>b) Replacement of Battery Banks I& II, along with charger I & associated equipment.<br>c) Replacement of 1 No. Circuit breaker of transfer bus sectionalizer.<br>d) Partial Renovation of Brake-Jack System for all units.<br>e) Partial Renovation of 2 Nos. EOT cranes and 45 ton gantry crane at Intake dam.<br>f) Refurbishment of Butterfly Valves including control system.<br>g) Providing of Fire Detecting System.<br>h) Partial Renovation of 07 ton Goliath crane at Upper Sileru Power House.<br>i) Refurbishment of the cooling water system for Generators.<br>j) Modification of switch yard of USPH for | <ul style="list-style-type: none"> <li>• Purchase order was placed on M/s. Andritz Hydro Pvt. Ltd. and work completed in 2022.</li> <li>• Old Governors were replaced with the New Microprocessor based RGMO Governor during the year 2018, 2019, 2021 &amp; 2020 respectively. (Expenditure: 228.25 Lakhs excl. taxes)</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> </ul> |

| S. No. | Scheme/ Category/ Completion Target                                                                                                         | Expected Benefit (MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Present Status                                                                                                                                                                                                                                                                                                                                        |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                                                                                             |                                                    | <p>transfer of all units from main bus to other bus and vice versa.</p> <p>k) SCADA System for four units and relay protection system for unit-1</p> <p>l) Replacement of RTU panel.</p> <p>m) Replacement of existing Dewatering System with energy efficient Dewatering pumps along with motors.</p> <p>n) Refurbishment of Runner &amp; dynamic balancing, for Stage-I units including Replacement of moving labyrinth ring along with refurbishment /renovation of DT gates &amp; Intake Gates.</p> <p>o) Replacement of Thrust Bearing coolers (06 nos.) for Stage-2 units.</p> <p>p) Replacement of synchronizing panel for four units.</p> <p><u>Civil works</u></p> <p>a) Refurbishment of Guntawada Head regulator and exit channel lining.</p> <p>b) Refurbishment of Crest gates of Guntawada Dam Upstream side &amp; replacement of Instrumentation.</p> | <ul style="list-style-type: none"> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> </ul>                                                  |
| 31.    | <b>Nagarjuna Sagar Right Canal Power House,</b><br>3x30.6 MW<br>APGENCO<br>1983 (Unit – 1 & 2)<br>1990 (Unit – 3)<br>T- M/s.<br>BOVING, U.K | -<br><br>26.77<br><br>3.79                         | <p>a) DVR: Replacement AVR's with Modern Digital Voltage Regulator based Static Excitation System.</p> <p>b) SCADA: Replacement of relay logic based automatic system with SCADA system along</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>• Purchase order was placed on M/s. ABB India Ltd. and work completed in 2022 with total cost of 2 Crore.</li> <li>• Tender for SCADA floated with estimated cost of Rs. 1.05 crores and cancelled as the rates quoted are exorbitantly high Retendering is to be carried out with fresh estimates.</li> </ul> |

| S. No. | Scheme/ Category/ Completion Target                                             | Expected Benefit (MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Present Status                                                                                                                                                                                                                                                                                                                                                                           |
|--------|---------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        | G-M/s. GEC Large Machines Ltd., U.K<br><br><b>R&amp;M</b><br><br><b>2027-28</b> |                                                    | <p>with GPS for all the 3 units and Power House.</p> <p>c) Replacement of Governors for 3 units.</p> <p>d) Modification of Thrust bearing coolers to Units- 1, 2 &amp; 3.</p> <p>e) Providing 132/11KV Network at NSRCPH.</p> <p>f) Replacement of Protection relay systems for all the 3 units &amp; Feeders.</p> <p>g) Renovation of Penstock gate, Hydraulic cylinder &amp; Hydraulic power pack of PIG system for Unit – III.</p> <p>h) Replacement of 132KV Current Transformers (11 Nos.) with latest CTs.</p> <p>i) Renovation of 132KV Current Transformers (10 Nos.) &amp; 132 KV PTs (2 Nos.).</p> <p>j) Renovation of HV Bushings and LV bushings of 3 Nos. Generator Transformers (Total 6 Nos.).</p> <p>k) 10. Renovation of Lightening Arrestors (09 Nos.).</p> <p>l) Replacement of 3 Nos. Ingersoll-Rand make air Compressor with new air compressors.</p> <p>m) Providing of Passengers Lift for (6 persons) at NSRCPH.</p> | <ul style="list-style-type: none"> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> </ul> |

| S. No. | Scheme/ Category/ Completion Target                                                                                                                                                                               | Expected Benefit (MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Present Status                                                                                                                                                                                                                               |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                                                                                                                                                                   |                                                    | <p>n) Laying of new pipe line for Unit-3 penstock bypass line connecting to unit-1&amp;2 penstock bypass line (including material) at Nagarjuna Sagar Right Canal Power House.</p> <p>o) Establishment of new Brake/Jack system for all the three Units.</p> <p><u>Civil works</u></p> <p>a) Replacement of damaged penstock service gate with new fixed wheel type vertical lift penstock service gate including refurbishment of grooves and embedded parts of units no. III.</p>                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>• Under Tendering.</li> <li>• Under Tendering.</li> </ul>                                                                                                                                             |
| 32.    | <p><b>Srisailem Right Bank Power House, (7 x 110) APGENCO</b></p> <p>St-1 (Unit- 1 to 4): 1982-84</p> <p>St-2 (Unit- 5 to 7): 1986-87</p> <p><u>T&amp;G- BHEL</u></p> <p><b>R&amp;M</b></p> <p><b>2027-28</b></p> | <p>-</p> <p>24.67</p> <p>17.974</p>                | <p><u>E&amp;M works</u></p> <p>a) Replacement of existing governor system with new servo valve based new HMC electronic based governors.</p> <p>b) Refurbishment of Rotor and reconditioning of Top &amp; Bottom covers of Turbine &amp; generator/ Unit#1.</p> <p>c) Upgradation and Replacement of Generator &amp; Generator Transformer Protection Relays.</p> <p>d) Upgradation of Software and replacement of some of the equipment of SCADA System.</p> <p>e) Replacement of (5 nos.) 245 KV SF6 Gas Filled Circuit Breakers.</p> <p>f) Replacement of Isolator Mechanism Boxes for 220 KV, 132KV feeders.</p> <p>g) Replacement of 3 Nos. of 11KV feeder Control &amp; Protection panels with</p> | <ul style="list-style-type: none"> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> <li>• Under Tendering.</li> </ul> |

| S. No. | Scheme/ Category/ Completion Target                                                                                                                                                                                                | Expected Benefit (MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                     | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                                                                                                                                                                                    |                                                    | <p>the latest numerical relays.</p> <p>h) Replacement of 7 No 220 KV Generating units control panels.</p> <p>i) Replacement of Marshaling Boxes for all 220KV/ 132KV/ 11KV feeders and Generating Units with latest marshaling boxes.</p> <p>j) Reconditioning of Runner removed from Unit#7.</p> | <ul style="list-style-type: none"> <li>Under Tendering.</li> <li>Under Tendering.</li> <li>Under Tendering.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 33.    | <b>Tungabhadra Dam,</b><br>(4x9 MW)<br>APGENCO<br>1957-64<br>Unit-1&2<br>T-Escherways, Zurich<br>G- Browin Bovert, Switzerland<br>Unit-3&4<br>T- Hitachi, Japan<br>G- Toshiba,Japan<br><br><b>R&amp;M</b><br><br><b>2027-32</b>    | -<br><br>6.6525<br><br>2.517                       | Partial renovation works involves Capital Overhaul works on all units for replacement of equipment/components worn out over a period of 60 years along with replacement of equipment like governors & Excitation systems, which are affecting the station performance.                            | <ul style="list-style-type: none"> <li>The investment for RMU works out to be 330 Cr. excluding IDC (as per budgetary offer of M/s Andritz Hydro) which doesn't yield required benefit economically. In view of above limitations, Tungabhadra board has given consent to carry out partial renovation works only. The proposed R&amp;M works are contemplated to carry out with O&amp;M budget of Rs. 4-5 Crores per year in a phased manner.</li> <li>Necessary renovation works will be taken up on the units/ MIVs of Hampi Power House based on the need basis in a phased manner.</li> </ul> |
| 34.    | <b>Hampi Canal PH,</b><br>(4x9 MW)<br>APGENCO<br>1958-64<br>Unit-1&2<br>T-Charmilles, Switzerland<br>G- Browin Bovert,Switzerland<br>Unit-3&4<br>T- Hitachi, Japan<br>G- Toshiba,Japan<br><br><b>R&amp;M</b><br><br><b>2027-32</b> | -<br>-<br>-                                        | Partial renovation works involves Capital Overhaul works on all units for replacement of equipment/components worn out over a period of 60 years along with replacement of equipment like governors & Excitation systems, which are affecting the station performance.                            | After completion of partial renovation works on the units of TB Dam Power House, necessary renovation works will be taken up on the units/ MIVs of Hampi Power House based on the need basis in a phased manner.                                                                                                                                                                                                                                                                                                                                                                                   |

| S. No.                                                                    | Scheme/ Category/ Completion Target                                                                                                                                                                                                                                                      | Expected Benefit (MW)/ Estimated Cost/ Expenditure                                                                                              | Scope of work                                                                                                                                                                                                                                           | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>B - SCHEMES ONGOING - Under DPR Preparation/ Finalisation/Approval</b> |                                                                                                                                                                                                                                                                                          |                                                                                                                                                 |                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 35.                                                                       | <b>Lower Sileru,</b><br>(4x115 MW)<br>APGENCO<br>Unit-1 to 4: 1976-78<br><u>T&amp;G-</u> BHEL<br><br><b>RM&amp;LE</b><br><br><b>2029-30</b>                                                                                                                                              | <b>460 (LE)</b><br><br>699.65<br><br>1.8 (for RLA studies)                                                                                      | Residual Life Assessment (RLA)/ Life Extension Studies and Preparation of Detailed Project Report along with technical specifications for R, M & U of Lower Sileru Hydro Electric Project.                                                              | <ul style="list-style-type: none"> <li>The 175th board meeting of APGENCO approved to conduct the RLA/ LE studies and Preparation of DPR for R, M &amp; U of all four units (4x115 MW) of LSHEP.</li> <li>Work has been awarded to M/s MECON for Rs 1.8 Crore to carry out RLA. RLA studies of all four units completed. DPR has been furnished in March 2023 by M/s MECON.</li> <li>R&amp;M works of the existing four units will be taken up by the time of completion of new units 5 &amp; 6 due to space &amp; EOT constraints. Additional two units' i.e 5 &amp; 6 will be completed tentatively by 31<sup>st</sup> October 2026.</li> </ul>                                                                                                                                                                                                                                                                             |
| 36.                                                                       | <b>Machkund,</b><br>3x17 MW (St.-I) &<br>3x23 MW (St.-II)<br>APGENCO<br>1955-56 (St.-I) &<br>1959 (St.-II)<br>St.-I:<br>T - M.Smith,<br>USA<br>G -<br>W.House,USA<br>St.-II:<br>T - J.M.Voith,<br>W. Germany<br>G - Westing<br>House, USA<br><br><b>RMU&amp;LE</b><br><br><b>2027-32</b> | <b>120 (LE)+<br/>9 (St.-I) (U)</b><br><br>1.98 Crs./Nil (RLA studies)<br><br>Cost of R&M – not yet finalised<br><br>0.99 crores for RLA Studies | Residual Life Assessment studies (RLA) on Civil structures, penstocks, Hydro Mechanical and all Electrical & Mechanical equipment of all six units.<br><br><b>Note:</b> Three units of Stage-I each rated at 17 MW are proposed to be uprated to 20 MW. | <ul style="list-style-type: none"> <li>The Govt. of AP (APGENCO) &amp; Govt. of Odisha (OHPC) mutually agreed for carrying out RM&amp;U by sharing the costs &amp; benefits in the ratio of 50:50. Modified agreement was entered on 23.10.2020 by both APGENCO and OHPC officials.</li> <li>Work awarded to M/s Tata Consulting Engineers (TCE), Bangalore for carrying out RLA Study on 11.11.2021.</li> <li>PAC comprising of members from both the Governments of AP &amp; Odisha was constituted in new agreement for taking decisions on all administrative and technical issues.</li> <li>RLA studies on all units are completed. DPR and Technical Specification for R M &amp; U submitted.</li> <li>The time schedule for implementation and other modalities will be discussed with OHPC in the ensuring Project administration committee (PAC). After finalization of issues in PAC meeting, the actual</li> </ul> |

| <b>S.<br/>No.</b> | <b>Scheme/<br/>Category/<br/>Completion<br/>Target</b> | <b>Expected<br/>Benefit<br/>(MW)/<br/>Estimated<br/>Cost/<br/>Expenditure</b> | <b>Scope of work</b> | <b>Present Status</b>                       |
|-------------------|--------------------------------------------------------|-------------------------------------------------------------------------------|----------------------|---------------------------------------------|
|                   |                                                        |                                                                               |                      | schedule of R&M works will be communicated. |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2027-32**

**SOUTHERN REGION**

**TAMIL NADU**

**(Amount in Rs. Crores)**

| <b>S. No.</b>                                                              | <b>Scheme/ Category/ Completion Target</b>                                                                                        | <b>Expected Benefit(MW)/ Estimated Cost/ Expenditure</b> | <b>Scope of work</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Present Status</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES ONGOING – Under DPR Preparation/ Finalisation/ Approval</b> |                                                                                                                                   |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>37.</b>                                                                 | <b>Kodayar PH-II,</b><br>1x40 MW<br>TNPGL<br>1971<br>T-Yugoslavia<br>G-Yugoslavia.<br><br><b>RMU&amp;LE</b><br><br><b>2027-32</b> | <b>40 (LE)+<br/>6 (U)</b><br><br>-<br><br>Nil            | Replacement of stator core & winding, rotor winding, poles, Excitation system, Governing system, Runner, guide vanes, Cooling water & De-watering systems, Generator Transformers, Generator protection, LT switch gear, lubrication system, 11 KV LAVT, Neutral Grounding Transformer, Annunciation system, power and control cable, UAT, fire-fighting system for generator, yard, cable gallery yard, Refurbishment of turbine inlet valves and Butterfly valves, Air admission system, brake & jack and bearings. | M/s MECON submitted RLA study report in 2006 and proposed to uprate from 40 to 46 MW. TNPGL decided to take up fresh RLA study and RMU works of Kodayar PH-II on completion of RMU works of Kodayar PH-I as the water of PH-I is used for PH-II.<br><br>Note: Replacement of stator core and complete rewinding of stator with new class F insulation completed during 2024 and is under guarantee period 1 02.07.2029. Hence, the need for immediate RMU works at kodayar PH-II does not arises at present as the plant is being capable of sustaining power generation in future as well. |
| <b>B - SCHEMES ONGOING - Under RLA Studies</b>                             |                                                                                                                                   |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>38.</b>                                                                 | <b>Kundah-I,</b><br>3x20 MW<br>TNPGL<br>1960-64<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>                                     | <b>60 (LE)</b><br><br>-<br><br>Nil                       | Detailed scope of work will be arrived after finalization of specification based on RLA study report.                                                                                                                                                                                                                                                                                                                                                                                                                 | TNGECL vide letter dated 06.07.2026 intimated that plants served more than 30 years are working effectively without any major problems so far and due to stringent financial status of TNGECL, RLA/RMU works will be taken later in a phased manner.                                                                                                                                                                                                                                                                                                                                        |
| <b>39.</b>                                                                 | <b>Kundah-II,</b><br>5x35 MW<br>TNPGL<br>1960-65<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>                                    | <b>175 (LE)</b><br><br>-<br><br>Nil                      | Detailed scope of work will be arrived after finalization of specification based on RLA study report.                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>40.</b>                                                                 | <b>Kundah-III,</b><br>3x60 MW<br>TNPGL<br>1965-78<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>                                   | <b>180 (LE)</b><br><br>-<br><br>Nil                      | Detailed scope of work will be arrived after finalization of specification based on RLA study report.                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| <b>S. No.</b> | <b>Scheme/ Category/ Completion Target</b>                                                         | <b>Expected Benefit(MW)/ Estimated Cost/ Expenditure</b> | <b>Scope of work</b>                                                                                  | <b>Present Status</b> |
|---------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------|
| <b>41.</b>    | <b>Kundah-IV,</b><br>2x50 MW<br>TNPGL<br>1966-78<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>     | <b>100 (LE)</b><br>-<br>NIL                              | Detailed scope of work will be arrived after finalization of specification based on RLA study report. |                       |
| <b>42.</b>    | <b>Kundah-V,</b><br>2x20 MW<br>TNPGL<br>1964-88<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>      | <b>40 (LE)</b><br>-<br>NIL                               | Detailed scope of work will be arrived after finalization of specification based on RLA study report. |                       |
| <b>43.</b>    | <b>Mettur Tunnel,</b><br>4x50 MW<br>TNPGL<br>1965-66<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b> | <b>200 (LE)</b><br>-<br>NIL                              | Detailed scope of work will be arrived after finalization of specification based on RLA study report. |                       |
| <b>44.</b>    | <b>Sarkarpathy,</b><br>1x30 MW<br>TNPGL<br>1966<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>      | <b>30 (LE)</b><br>-<br>NIL                               | Detailed scope of work will be arrived after finalization of specification based on RLA study report. |                       |
| <b>45.</b>    | <b>Sholayar-II,</b><br>1x25 MW<br>TNPGL<br>1971<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>      | <b>25 (LE)</b><br>-<br>NIL                               | Detailed scope of work will be arrived after finalization of specification based on RLA study report. |                       |
| <b>46.</b>    | <b>Suruliyar,</b><br>1x35 MW<br>TNPGL<br>1978<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>        | <b>35 (LE)</b><br>-<br>NIL                               | Detailed scope of work will be arrived after finalization of specification based on RLA study report. |                       |

| S. No. | Scheme/ Category/ Completion Target                                                                 | Expected Benefit(MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                         | Present Status |
|--------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------|
| 47.    | <b>Kadamparai PH,</b><br>4x100 MW<br>TNPGL<br>1987-89<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b> | <b>400 (LE)</b><br>-<br>NIL                       | Detailed scope of work will be arrived after finalization of specification based on RLA study report. |                |
| 48.    | <b>Aliyar</b><br>1x60 MW<br>TNPGL<br>1970<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>             | <b>60 (LE)</b><br>-<br>NIL                        | Detailed scope of work will be arrived after finalization of specification based on RLA study report. |                |
| 49.    | <b>Lower Mettur-I</b><br>2x15 MW<br>TNPGL<br>1988<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>     | <b>30 (LE)</b><br>-<br>NIL                        | Detailed scope of work will be arrived after finalization of specification based on RLA study report. |                |
| 50.    | <b>Lower Mettur-II</b><br>2x15 MW<br>TNPGL<br>1988<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>    | <b>30 (LE)</b><br>-<br>NIL                        | Detailed scope of work will be arrived after finalization of specification based on RLA study report. |                |
| 51.    | <b>Lower Mettur-III</b><br>2x15 MW<br>TNPGL<br>1988<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>   | <b>30 (LE)</b><br>-<br>NIL                        | Detailed scope of work will be arrived after finalization of specification based on RLA study report. |                |

| <b>S. No.</b> | <b>Scheme/ Category/ Completion Target</b>                                                          | <b>Expected Benefit(MW)/ Estimated Cost/ Expenditure</b> | <b>Scope of work</b>                                                                                  | <b>Present Status</b> |
|---------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------|
| 52.           | <b>Lower Mettur-IV</b><br>2x15 MW<br>TNPGL<br>1988-89<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b> | <b>30 (LE)</b><br>-<br>NIL                               | Detailed scope of work will be arrived after finalization of specification based on RLA study report. |                       |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2027-32**

**SOUTHERN REGION**

**KARNATAKA**

**(Amount in Rs. Crores)**

| S. No.                                          | Scheme/ Category/ Completion Target                                                                                                                                          | Expected Benefit(MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A. SCHEME ONGOING - Under Implementation</b> |                                                                                                                                                                              |                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 53.                                             | <b>Nagjhari, U-1 to 3,</b><br>3x150 MW (uprated from 135 MW)<br>KPCL<br>1979 (U-1),<br>1980 (U-2),<br>1981 (U-3)<br>T&G - BHEL<br><br><b>RM&amp;LE</b><br><br><b>2028-29</b> | 450 (LE)<br><br>266<br><br>142.16                 | <p>R&amp;M of Turbine of Unit-1, 2 &amp; 3. Supply of major components, spares of turbine like Top cover, Pivot ring, labyrinth, MIV seals, guide vanes, aeration valves, runner, guide apparatus, GV servomotor regulating ring, rotary valve, shaft coupling bolt, spare guide vanes, runner &amp; shaft etc.</p> <p>Implementation of New split shaft design generator rotor and associated equipment.</p> <p>Replacement of 6 nos. of Unit Auxiliary Panels (UAPs) and retrofitting of 4 nos. breakers, replacement of electro-mechanical relays by numerical relays in 5 incomers, bus coupler &amp; 4 nos. outgoing feeders in common auxiliary panel.</p> | <p>Order placed on M/s BHEL on 24.02.2018 for Rs. 99.25 Crores (Excluding taxes, freight and insurance) for Turbine, MIV, Governor &amp; its accessories for Units 1, 2&amp;3. Revised DPR with additional scope, submitted to KERC for approval.</p> <p>Additional order dated 14.12.2022 for implementation of split shaft design Generator rotor placed with BHEL. Contract agreement executed on 29.12.2022.</p> <p>Design and approval of drawing of major components completed.</p> <p>Supply of items is almost completed. Unit#2 handed over for R&amp;M works from 15.06.2024 and work are under progress.</p> <p>Completion Schedule:<br/>                     Unit 2: July 2026<br/>                     Unit 3: Aug 2027<br/>                     Unit 1: Sept 2028</p> <p>Details of work in progress for Unit-2:</p> <p>Generators:<br/>                     LGB vapour seal erection under progress and Generator floor plates leveling, wool felt &amp; T-Shape rubber fixing works under progress.</p> <p>Turbine:<br/>                     1. Erection of MIV under progress, MIV inspection window dummy fixing completed.<br/>                     2. Break link rods and GV level levelling and GV bedding works under progress.</p> <p>Order placed on M/s. Balaji Electro Controls Pvt. Ltd. on 19.05.2018 at a total cost of Rs.3,32,14,777.00/-.</p> |

|                                              |                                                                                                                              |                             |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                              |                                                                                                                              |                             | SCADA System which includes erection & commissioning of Auto sequencer, installation of Dynamic disturbance recorder, online vibration monitoring system planned in phased manner, fire protection system, Commissioning of Thermo signaling devices in addition to RTD's, replacement of hydraulically operated valves by electrically operated Solenoids.                       | Erection and commissioning works of UAPs for all Units completed.<br><br>DPR to be submitted with revised estimate to KERC for approval.                                                                                                                                                                                                                                                                                            |
| 54.                                          | <b>Kadra Dam Power House,</b><br>(3x50MW)<br>KPCL<br>1997-1999<br>T&G - BHEL<br><br><b>R&amp;M</b><br><br><b>2027-32</b>     | -<br><br>44.47<br><br>2.627 | <ul style="list-style-type: none"> <li>• 220 kV Switchyard - Replacement of breakers, protective painting of switch yard structures.</li> <li>• Relays and control panels - replacement of numerical relays of control panels, GT panel, auto synchronous panel. SCADA - New SCADA System is to be implemented.</li> </ul>                                                        | Order issued to M/s. APPSIL on 21.05.2021 and entered into agreement on 17.06.2021. Erection of switchyard equipment completed.<br><br>KERC/Board approval is under progress. Tendering works to be taken up.<br>Tentative Completion Schedule: Feb-2029                                                                                                                                                                            |
| 55.                                          | <b>Kodasalli Dam Power House,</b><br>(3x40MW)<br>KPCL<br>1998-1999<br>T&G - BHEL<br><br><b>R&amp;M</b><br><br><b>2027-32</b> | -<br>50.60<br><br>2.654     | <ul style="list-style-type: none"> <li>• Replacement of UAP, ACDB and CAP.</li> <li>• 220kV Switchyard - Replacement of breakers, protective painting of switch yard structures.</li> <li>• Relays and control panels - replacement of numerical relays of control panels, GT panel, auto synchronous panel.</li> <li>• SCADA - New SCADA System is to be implemented.</li> </ul> | LTAC Panels: UAP, ACDB and CAP:<br>Work order dated 21.12.2020 was placed on M/s Lotus power gear. Erection & commissioning of 5 ACDBs, 3 UAPs & CAP completed. PLC programming and communication work completed.<br>Order issued to M/s APPSIL on 21.05.2021. Erection of switchyard equipment completed.<br><br>KERC/Board approval is under progress. Tendering works to be taken up.<br>Tentative Completion Schedule: Feb-2029 |
| <b>B - SCHEMES ONGOING - Under Tendering</b> |                                                                                                                              |                             |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 56.                                          | <b>Supa Dam Power House,</b><br>(2x50MW)<br>KPCL<br>1985<br>T&G - BHEL<br><br><b>R&amp;M</b><br><br><b>2027-32</b>           | -<br>47.91<br><br>-         | <ul style="list-style-type: none"> <li>• Replacement of UAP &amp; CAP</li> </ul><br><b>SCADA</b> -All instrumentation and field devices of E&M equipment, new annunciation system for units, auto & manual synchronizer and                                                                                                                                                       | Order placed on M/s. Balaji Electro Controls Pvt. Ltd. on 19.05.2018 at a total cost of Rs. 15529505.00. Erection & commissioning of all UAP's and CAP's completed.<br><br>KERC/Board approval is under progress. Tendering works to be taken up.<br><br>Tentative Completion Schedule: Dec-2028                                                                                                                                    |

|                                                 |                                                                                                                                                                                 |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                 |                                                                                                                                                                                 |                          | temperature recorder at machine hall, etc.                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>C. - SCHEMES ONGOING - Under RLA Studies</b> |                                                                                                                                                                                 |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 57.                                             | <b>Varahi Underground Power House</b><br>(4x 115MW)<br>KPCL<br>Unit 1&2: 1989-90<br>Unit 3&4: 2009<br>T&G<br>Unit 1&2: BHEL<br>Unit 3&4: Andritz<br>Hydro<br><br><b>2027-32</b> | 230 (LE)<br>(U 1&2)      | RLA Studies of Generators Unit1&2.                                                                                                                                                                                                                                                                                                                                                                                                                          | Job order placed on M/s Diagnostic technologies (I) Pvt .Ltd., Mumbai at a total cost of Rs 9, 67,600/- incl. of taxes & duties, on 05.03.2024.<br><br><b>RLA studies completed.</b><br><br>Budgetary offers from various firms sought for R&M works and awaiting for offers.                                                                                                                                                                                                                                                                                               |
| 58.                                             | <b>Linganamakki Dam Power House</b><br>(2x27.5MW)<br>KPCL<br><br><b>2027-32</b>                                                                                                 | 55(LE)<br><br>15.04<br>- | RLA study of unit 1 &2 is to be taken up.<br><br>Design, Engineering, Manufacturing, Supply, erection, Testing& Commissioning of one no. of Kaplan Turbine Runner and other Turbine & generator related works of 27.5MW capacity Generating unit at Linganamakki Dam Power House, Jog falls .<br><br>Replacement of static excitation system (SEE)<br>With Digital Automation voltage regulator & associated equipment's complete for all Generating units. | Tender for the subject work was recalled on 06.01.2026 for obtaining competitive bidders & Cover-1 Opened on 09.03.2026. Cover-1 & 2 opened, Bid evaluation completed. Obtaining Approval of competent authority to place WO on L1 Bidder is under process.<br><br>Job order placed on M/s ABB(I) Ltd., Bengaluru at a total cost of Rs 1,33,60,747/- incl. of taxes & duties, on 25.09.2024. Contract agreement is executed on 21.11.2024 Supplies are completed on 11.03.2026. Erection of static excitation system in U-2 is completed and of unit-1 is to be scheduled. |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2027-32**

**SOUTHERN REGION**

**KERALA**

**(Amount in Rs. Crores)**

| S. No.                                                                    | Scheme/ Category/ Completion Target                                                                                            | Expected Benefit(MW)/ Estimated Cost/ Expenditure | Scope of work                                                                                                                                                                              | Present Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES ONGOING - Under DPR Preparation/ Finalization/Approval</b> |                                                                                                                                |                                                   |                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>59.</b>                                                                | <b>Idukki 1<sup>st</sup> stage and 2<sup>nd</sup> Stage,</b><br>6x130 MW<br>KSEB<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b> | <b>780 (LE)</b>                                   | RLA of Stage I and II machines incl. up rating studies of Stage II machines and preparation of DPR for the RMU of II stage units of Idukki underground power station at Moolamattom.       | Work order for RLA study including uprating study and preparation of DPR for RMU issued to M/s. MECON Limited, Ranchi on 01.09.2022.<br><br>RLA study started from 03.12.2022 and completed on 12.10.2023 for all units. RLA study report and Draft DPR submitted. Finalization of DPR in progress.                                                                                                                                                                                                                                                                                                                           |
| <b>60.</b>                                                                | <b>Idamalayar,</b><br>2x37.5 MW<br>KSEB<br>1987<br><br><b>RM&amp;LE</b><br><br><b>2027-32</b>                                  | <b>75 (LE)</b><br><br>98.00<br>0.839              | RMU & LE of Idamalayar HEP (Replacement of runner, runner cone, Stator and rotor winding, Guide Vane Assembly, C&R panels, Governor, Excitation system and implementation of SCADA system) | Work awarded to M/s. MECON Ltd., Ranchi on 03/04/2023.<br><br>M/s. MECON has started work of Unit#2 on 26.06.2023.<br><br>RLA study of both units carried out along with its annual maintenance and completed the study in November 2023. DPR based on RLA study report submitted by M/s MECON on 10.06.2024.<br>DPR amounting to 77 crore was submitted on 14.11.2025.<br><br>Revised DPR for Rs.98 Crores submitted to the Board for sanction by CE (Generation) on 03.03.2026.<br>Additional details for financial viability analysis has been sought. The same is under preparation.<br><br>Target Completion: 30.06.2030 |

**B - SCHEMES ONGOING - Under RLA Studies**

|                   |                                                                                                                                        |                                                  |                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>61.</b></p> | <p><b>Sabarigiri,<br/>(U1,2,3, 5 &amp; 6)</b><br/>4x55 + 1x 60 MW<br/>KSEB<br/>1966</p> <p><b>RMU&amp;LE</b></p> <p><b>2027-32</b></p> | <p><b>220 (LE) + 20(U)</b></p> <p>-</p> <p>-</p> | <p>Unit 1,2,3 &amp; 5 is proposed to be uprated from 55 MW to 60 MW. Detailed scope of work will be arrived after finalization of specification based on RLA study report.</p> <p>Replacement of Generator and Turbine Shaft of U#2.</p> <p>Refurbishment of Stator core of Unit#6.</p> | <p>Scope of RLA study finalized as per the technical audit conducted by CBIP, New Delhi. Detailed RLA to be conducted for deciding the RMU works. Offers requested from various firms, but not yet finalized.</p> <p>Due to deteriorated condition of winding, rewinding work is to be taken up before RLA study to avoid outage.</p> <p>The work of Design, Manufacturing Supply, Erection, Supervision of erection, Testing and commissioning of new VPI insulated stator winding and Dismantling, Re-varnishing and Restacking of the existing Stator core of 55MW Unit-2, Lap wound generator was awarded to M/s. Coral Rewinding India Pvt. Ltd. on 14.07.2025. The Stator coil rewinding by M/s. Coral Rewinding India Pvt. Ltd. was completed on 05/04/2026, and the machine has been handed over to KSEBL. The shaft replacement work of Unit-2 was awarded to M/s Voith Hydro India Pvt. Ltd. The work has been started by M/s. Voith Hydro Pvt. Ltd. and is expected to be completed by 10/07/2026.</p> <p>Work completed and unit commissioned on 11.02.2023. Replacement of turbine shaft of Unit-6 is under planning stage.</p> |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2027-32**

**EASTERN REGION**

**JHARKHAND**

**(Amount in Rs. Crores)**

| <b>S. No.</b>                                 | <b>Scheme/ Category/ Completion Target</b>                                | <b>Expected Benefit (MW)/ Estimated Cost/ Expenditure</b> | <b>Scope of work</b>                                                                                                                                                                                                                                                                               | <b>Present Status</b>                                                                                                                                                                                     |
|-----------------------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>B- SCHEMES ONGOING - Under RLA Studies</b> |                                                                           |                                                           |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                           |
| <b>62.</b>                                    | <b>Subernrekha, 2x65 MW JUUNL 1977-80</b><br><br><b>RM&amp;LE 2030-31</b> | <b>130(LE) 262.9</b><br><br>-                             | <ul style="list-style-type: none"> <li>• RLA of generating unit of SRHP.</li> <li>• DPR preparation as per CEA guidelines for Renovation &amp; Modernization.</li> <li>• Detailed scope of work of RMU&amp;LE will be arrived after finalization of specification based on RLA studies.</li> </ul> | RLA studies is proposed. Board of Director of JUUNL approved the agenda to appoint consultant for RLA study for RMU& LE of both units on 19.02.2025. Tendering process for RLA studies is under progress. |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2027-32**

**EASTERN REGION**

| <b>West Bengal</b>                           |                                                                                                                                                                                      |                                                           | <b>(Amount in Rs. Crores)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>S. No.</b>                                | <b>Scheme/ Category/ Completion Target</b>                                                                                                                                           | <b>Expected Benefit (MW)/ Estimated Cost/ Expenditure</b> | <b>Scope of work</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Present Status</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>A - SCHEMES Ongoing - Under Tendering</b> |                                                                                                                                                                                      |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>63.</b>                                   | <b>Maithon</b><br><b>U-1&amp;3,</b><br>2x20 MW +<br>1x23.2 MW<br>DVC<br>1957-58<br>T - Neyrpic,<br>France<br>G - Siemens,<br>W.Germany<br><br><b>RM&amp;LE</b><br><br><b>2028-29</b> | <b>40 (LE)</b><br><br>136.40<br><br>-                     | <ul style="list-style-type: none"> <li>• Replacement of Turbine &amp; Accessories, Generator &amp; Associated equipment, Protection &amp; Control System, Generator Transformer, Circuit Breaker, Isolator, CTs, PTs, Surge protection equipment, HT bus duct, Unit Auxiliary Board, DC distribution Board etc..</li> <li>• Implementation of balance Control, Monitoring &amp; Protection system of Power Plant in Existing DCS (ABB Supplied).</li> <li>• Refurbishment of Water conductor system consisting of Penstock, spiral casing, stay vanes, Draft tube etc.</li> <li>• Repair, refurbishment and strengthening etc. of Unit-1 &amp; 3 foundations, Power House Building civil /structural component.</li> </ul> | <ul style="list-style-type: none"> <li>• Work order for RLA study, uprating study, preparation of DPR, specification etc. placed on M/s MECON on 11.04.2019. RLA study of Unit-1 completed in October'19 and of Unit-3 on 06.01.2020.</li> <li>• DPR was submitted for techno-economic clearance and approved by CEA on 13.09.2022.</li> <li>• NIT Document prepared.</li> <li>• Revisiting of NIT Doc. in respect of recent directives of MoP, dated 16 March 2023 for incorporation of the recommendation made in the committee report for Hydro Power Project completed.</li> <li>• NIT floated on 20.10.2023. Tender opened on 15.03.2024. Price Bid opened on 09.08.2024. Price negotiation meeting held on 06.09.2024. Negotiated price is 32.5% higher than updated DE.</li> <li>• Tender cancelled on 09-12-24.</li> <li>• Specification &amp; estimate preparation for two Packages a) Electro-mechanical &amp; b) Civil with Hydro-mechanical)</li> <li>• NIT for Electro-mechanical package issued on 13.05.2025.</li> <li>• Techno commercial bid opened on 19.09.2025. Price Bid opened on 13.11.2025.</li> <li>• Work Order for Electro-mechanical package issued to M/s Flovel Energy Pvt. Ltd. on 21.04.2026.</li> </ul> |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2027-32**

**NORTH EASTERN REGION**

**Meghalaya**

**(Amount in Rs. Crores)**

| <b>S. No.</b>                                                             | <b>Scheme/ Category/ Completion Target</b>                                                                                  | <b>Expected Benefit(MW)/ Estimated Cost/ Expenditure</b> | <b>Scope of work</b>                                                                                  | <b>Present Status</b>                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES ONGOING - Under DPR Preparation/ Finalization/Approval</b> |                                                                                                                             |                                                          |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>64.</b>                                                                | <b>Umiam<br/>- Umtru<br/>Stage-IV<br/>2 x 30 MW<br/>MePGCL<br/>1992<br/>T&amp;G- BHEL<br/><br/>R&amp;M<br/><br/>2027-32</b> | <b>-<br/>500<br/>-</b>                                   | Detailed scope of work will be arrived after finalization of specification based on RLA study report. | Presently Meghalaya has hit the EAP (Externally Aided Project) limit. Therefore, the feasibility and possibility for “Renovation Modernization and Up-gradation of the Umiam-Umtru Stage IV Power station (2 x 30 MW), Nongkhyllem” will be initiated from 2027 onwards. Preliminary Project proposal has been prepared. Broad components and their estimated cost prepared. Life Assessment Study has been conducted. DPR preparation is in progress. |

**State-wise Programme/ Status of Renovation and Modernisation Schemes of Hydro Power Stations for completion during 2027-32**

**NORTH EASTERN REGION**

**Manipur**

**(Amount in Rs. Crores)**

| <b>S. No.</b>                                     | <b>Scheme/ Category/ Completion Target</b>                                                                                                                     | <b>Expected Benefit (MW)/ Estimated Cost/ Expenditure</b> | <b>Scope of work</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Present Status</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A - SCHEMES ONGOING – Under Implementation</b> |                                                                                                                                                                |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>65.</b>                                        | <b>Loktak,</b><br>3x35 MW<br>NHPC<br>USSR<br>1983 LMZ<br>T-LMZ<br>G-Leningrade,<br>(U-1)<br>T&G –<br>BHEL(U-2&3)<br><br><b>RM&amp;LE</b><br><br><b>2027-28</b> | 105 (LE)<br><br>273.59<br><br>177.11                      | i) Activities covering main equipment i.e. turbine, generator, generator transformers, other plant equipment essential for life extension of the units as well as station.<br>ii) Activities required for ensuring efficient and sustained performance of unit as well as station.<br>iii) Implementation of Control, Monitoring & Protection system of Power Plant such as Electronic Governors, Static Excitation System, numerical relays, SCADA.<br>iv) Refurbishment of water conductor system and associated Civil/HM works including infrastructure works. | <ul style="list-style-type: none"> <li>CEA approved post R&amp;M revised Design Energy of 562.73 MU in place of existing 448 MU.</li> <li>CERC approved R&amp;M proposal on 24.07.2019 at FI of Rs. 236.07 Cr and IDC &amp; FC of Rs. 37.52 Cr i.e. Total Rs. 273.59 Cr.</li> </ul> <p>a)E&amp;M: All four E&amp;M package i.e. EM-1(Main) package, EM-2 (Bus Duct), EM-3 (EOT Crane) &amp; EM-4 (DG Set) are awarded.</p> <p>b) .EM-1 (Main) package further subdivided into 13 Nos. out of which LOA for 10 Nos. sub-packages placed i.e.</p> <ul style="list-style-type: none"> <li>EM-1(i)(Main Package-Turbine &amp; Generator).</li> <li>EM-1(ii)(GSU Transformer &amp; Auxiliary Transformer).</li> <li>EM-1(iii)(Outdoor Switchyard System).</li> <li>EM-1(iv) (MV &amp; LV Switchgear).</li> <li>EM-1(v) (DC system).</li> <li>EM-1(vi) (Illumination system).</li> <li>EM-1(vii) (HVAC System).</li> <li>EM-1 (viii) (Firefighting system)</li> <li>EM-1(xii) (Oil handling system)</li> <li>EM-1(xiii)(Mechanical workshop)</li> </ul> <p>The remaining 03 nos. subpackages for ancillary works i.e. EM-1(ix) (PLCC System), EM-1(x)(Communication System), EM-1(xi)(Electrical Workshop) are under pre-tendering stage. The works under package EM-3 (EOT Crane) , EM-1(xii)-(Oil Handling System),EM-4(DG Set) and EM-1(xiii)(Mechanical Workshop) has been completed. Supply under package EM-1(v) DC system has been completed and installation is under progress and supply against EM-2(Bus Duct) has been completed. Supply under packages EM-1 (i) main package Turbine and Generator,EM-1(ii)GSU &amp; Auxiliary Transformers, EM-1 (iii) Outdoor switchyard equipment),EM-1 (iv) MV &amp;LV Switchgear system, EM-1 (viii)(Fire Fighting) are under progress. Installation and commissioning works for EM-1 (iv) LV and MV switchgear and EM-1(v) DC system is under progress.</p> |

|  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--|--|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |  | <p>c) Civil: Five Civil packages i.e Restoration of Drainage system &amp; Slope Protection at By-Pass Tunnel Area &amp; Penstock area (C1), Construction of vertical bored cast-in-situ pile work at bye pass tunnel area (C2), Civil works of power house complex including valve house, surge shaft and tail pool (C3), Civil works of Ithai barrage and power channel (C4) &amp; Under water concrete repair and restoration at barrage, intake structures, emergency gate (C5) have been awarded. The work under package C1, C2, &amp; C5 have been completed and the works under package C4 has been completed approximately 93%. The work under package C3 is in progress.</p> <p>d) HM: HM Package has been awarded and work is in progress.</p> <ul style="list-style-type: none"> <li>• <b>Misc. &amp; Infrastructure works:</b> Dredging of Khordak Channel has been completed by Loktak Development Authority (LDA). LOA for hiring of consultancy services for construction of residential and non-residential building has been awarded and is in progress. Drawing with cost estimate has been submitted by the consultant. Various estimates for infrastructure works are under tendering process.</li> <li>• MoEF&amp;CC, GoI directed to obtain prior Environmental Clearance for RM&amp;LE. Accordingly, NHPC is taking needful action.</li> <li>• Due to very disturbed law and order situation in Manipur w.e.f. 03.05.2023, progress of works is seriously hampered.</li> <li>• Considering the improving situation shutdown was planned from 03.02.2026, Further, in 236<sup>th</sup> OCC meeting it was opined that shutdown of Loktak HEP for R&amp;M should be deferred to maintain maximum availability of generation during the coming period. Hence NHPC (Loktak) was advised to reschedule the said shutdown tentatively during October/November. Accordingly, shutdown is planned in month of November 2026(during lean period).</li> </ul> |
|--|--|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

# **ANNEXURES**

## State-wise List of Hydro RMU&amp;LE schemes completed upto the VIII Plan

| Sl. No.          | Project, Agency                  | CS/ SS | Inst. Cap. (MW) | Est. Cost     | Actual Exp. | Benefits (MW)                    | Category | Year of Completion |
|------------------|----------------------------------|--------|-----------------|---------------|-------------|----------------------------------|----------|--------------------|
|                  |                                  |        |                 | (Rs. in Crs.) |             |                                  |          |                    |
| Himachal Pradesh |                                  |        |                 |               |             |                                  |          |                    |
| 1                | Bairasiul, NHPC                  | CS     | 3x60            | 25.98         | 25.98       | 18 (U)                           | RM&U     | 1991-92            |
| 2                | Giri, HPSEB                      | SS     | 2x30            | 9.85          | 7.90        | 6 (U)                            | RM&U     | 1995-96            |
| Punjab           |                                  |        |                 |               |             |                                  |          |                    |
| 3                | UBDC-I, PSPCL                    | SS     | 3x15            | 11.00         | 8.00        | 11 (Res)                         | R&M+Res. | 1991-92            |
| Uttar Pradesh    |                                  |        |                 |               |             |                                  |          |                    |
| 4                | Rihand, UPJVNL                   | SS     | 6x50            | 1.43          | 1.43        | 100(Res.)                        | R&M+Res. | 1995-96            |
| Karnataka        |                                  |        |                 |               |             |                                  |          |                    |
| 5                | Nagjhari, U-2, KPCL              | SS     | 1x135           | 11.97         | 11.32       | 15 (U)                           | RM&U     | 1995-96            |
| 6                | Shivasamudram, VVNL              | SS     | 6x3 + 4x6       | 8.00          | 8.00        | 18 (LE)                          | RM&LE    | N.A.               |
| Kerala           |                                  |        |                 |               |             |                                  |          |                    |
| 7                | Sholayar, KSEB                   | SS     | 3x18            | 7.58          | 7.58        | -                                | R&M      | 1996-97            |
| Tamil Nadu       |                                  |        |                 |               |             |                                  |          |                    |
| 8                | Kadamparai (Units 3&4), TANGEDCO | SS     | 2x100           | 23.17         | 33.69       | 200(Res.)                        | R&M+Res. | 1993-95            |
| 9                | Kundah III (Units 1&2), TANGEDCO | SS     | 2x60            | 5.45          | 3.20        | -                                | R&M      | 1991-92            |
| 10               | Moyar, TANGEDCO                  | SS     | 3x12            | 1.62          | 1.30        | 36.00 (LE)                       | RM&LE    | 1990-91            |
| 11               | Sholayar-I, TANGEDCO             | SS     | 2x35            | 1.40          | 0.85        | -                                | R&M      | 1994-95            |
| Assam            |                                  |        |                 |               |             |                                  |          |                    |
| 12               | Khandong, U-1, NEEPCO            | CS     | 1x25            | 0.62          | 0.62        | 25 (Res)                         | R&M+Res. | 1991-92            |
| Tripura          |                                  |        |                 |               |             |                                  |          |                    |
| 13               | Gumti, TPGL                      | SS     | 3x5             | 17.50         | 17.50       | -                                | R&M      | 1994-95            |
| Total            |                                  |        | 1282            | 125.57        | 127.37      | 429 [39 (U) + 54(LE) + 336(Res)] |          |                    |

Abbreviations: R&M – Renovation & Modernisation; U – Up-rating; LE – Life Extension; Res – Restoration; MW – Mega Watt; CS-Central Sector; SS- State Sector

**State-wise List of Hydro RMU&LE schemes completed in the IX Plan**

| Sl. No.          | Project, Agency            | CS/ SS | Inst. Cap. (MW) | Est. Cost     | Actual Exp. | Benefits (MW)            | Category  | Year of Completion |
|------------------|----------------------------|--------|-----------------|---------------|-------------|--------------------------|-----------|--------------------|
|                  |                            |        |                 | (Rs. in Crs.) |             |                          |           |                    |
| Himachal Pradesh |                            |        |                 |               |             |                          |           |                    |
| 1                | Bhakra RB BBMB             | CS     | 5x132           | 88.45         | 90.68       | 125.00 (U)               | RM&U      | 2000-01            |
| 2                | Dehar U-2 BBMB             | CS     | 1x165           | 10.74         | 10.74       | 25.00 (Res.)             | R&M+Res.  | 1998-99            |
| 3                | Bairasiul, NHPC            | CS     | 3x66            | 18.45         | 18.45       | -                        | R&M       | 2000-01            |
| 4                | Bassi, HPSEB               | SS     | 4x15            | 5.35          | 4.34        | -                        | R&M       | 2000-01            |
| Jammu & Kashmir  |                            |        |                 |               |             |                          |           |                    |
| 5                | Salal St.I, NHPC           | CS     | 3x115           | 51.50         | 51.50       | -                        | R&M       | 2000-01            |
| 6                | Chenani, J&KSPDC           | SS     | 5x4.66          | 11.00         | 11.00       | 0.93 (Res)               | R&M+Res.  | 2000-01            |
| Punjab           |                            |        |                 |               |             |                          |           |                    |
| 7                | Ganguwal, U-2 BBMB         | CS     | 1x24.2          | 18.90         | 15.00       | 22.00 (LE)+ 2.20 (Res)   | RM&LE+Res | 1997-98            |
| 8                | Kotla, U-3, BBMB           | CS     | 1x24.2          | 18.90         | 16.90       | 22.00 (LE)+ 2.20 (Res)   | RM&LE+Res | 1998-99            |
| 9                | Ganguwal U-3, BBMB         | CS     | 1x24.2          | 25.00         | 43.40       | 22.00 (LE)+ 2.20 (Res)   | RM&LE+Res | 2000-01            |
| 10               | Kotla U-2, BBMB            | CS     | 1x24.2          | 25.00         |             | 22.00 (LE)+ 2.20 (Res)   | RM&LE+Res | 2001-02            |
| Uttarakhand      |                            |        |                 |               |             |                          |           |                    |
| 11               | Chilla U-1, 3& 4, UJVNL    | SS     | 3x36            | 4.25          | 4.11        | -                        | R&M       | 1998-99            |
| 12               | Tiloth, UJVNL              | SS     | 3x30            | 8.02          | 5.51        | 6.00 (U)                 | RM&U      | 1998-99            |
| Andhra Pradesh   |                            |        |                 |               |             |                          |           |                    |
| 13               | Lower Sileru, APGENCO      | SS     | 4x115           | 13.35         | 9.30        | 24.00 (Res)              | R&M+Res.  | 2001-02            |
| 14               | Srisaillam RB, APGENCO     | SS     | 7x110           | 16.32         | 11.40       | -                        | R&M       | 2001-02            |
| Karnataka        |                            |        |                 |               |             |                          |           |                    |
| 15               | Sharavathy, U-1 to 8, KPCL | SS     | 8x89.1          | 65.00         | 63.49       | 115.20 (U) +178.20 (Res) | RM&U+Res  | 1997-98            |
| 16               | Sharavathy, U-9&10, KPCL   | SS     | 2x89.1          | 17.96         | 14.68       | 28.80(U) +19.10 (Res)    | RM&U+Res  | 1997-98            |

| Sl. No      | Project, Agency                 | CS/ SS | Inst. Cap. (MW) | Est. Cost     | Actual Exp. | Benefits (MW)                                 | Category                       | Year of Completion |
|-------------|---------------------------------|--------|-----------------|---------------|-------------|-----------------------------------------------|--------------------------------|--------------------|
|             |                                 |        |                 | (Rs. in Crs.) |             |                                               |                                |                    |
| Orissa      |                                 |        |                 |               |             |                                               |                                |                    |
| 17          | Hirakud-I, U1&2, OHPC           | SS     | 2x37.5          | 95.10         | 95.10       | 24.00(U) +75.00(LE)                           | RMU&LE                         | 1997-98            |
| Gujarat     |                                 |        |                 |               |             |                                               |                                |                    |
| 18          | Ukai,U-1&3, GSECL               | SS     | 2x75            | 24.99         | 24.99       | 75.00 (Res.)                                  | R&M+Res.                       | 1997-98            |
| Maharashtra |                                 |        |                 |               |             |                                               |                                |                    |
| 19          | Koyna I&II, MSPGCL              | SS     | 4x65+ 4x75      | 74.91         | 74.91       | 40.00(U) + 260.00(LE)                         | RM&U of St-I & II & LE of St-I | 1999-2000          |
| 20          | Koyna III, U-10, 11 &12, MSPGCL | SS     | 3x80            | 4.65          | 4.65        | -                                             | R&M                            | 1997-98            |
| Total       |                                 |        | 4892.10         | 597.84        | 570.16      | 1093.03 [339.0(U) + 423.0(LE) + 331.03(Res.)] |                                |                    |

Abbreviations: R&M – Renovation & Modernisation;. U – Uprating; LE – Life Extension;  
Res – Restoration; MW – Mega Watt; CS-Central Sector: SS- State Sector

**State-wise List of Hydro RMU&LE schemes completed in the X Plan**

| Sl. No.          | Project, Agency       | CS/ SS | Inst. Cap. (MW) | Est. Cost     | Actual Exp. | Benefits (MW)          | Category                                    | Year of Completion |
|------------------|-----------------------|--------|-----------------|---------------|-------------|------------------------|---------------------------------------------|--------------------|
|                  |                       |        |                 | (Rs. in Crs.) |             |                        |                                             |                    |
| Himachal Pradesh |                       |        |                 |               |             |                        |                                             |                    |
| 1                | Pong, BBMB            | CS     | 6x60            | 17.70         | 17.79       | 36.00(U)               | RM&U                                        | 2003-04            |
| Punjab           |                       |        |                 |               |             |                        |                                             |                    |
| 2                | Ganguwal,U-1, BBMB    | CS     | 1x29.25         | 51.28         | 81.99       | 25.89 (LE) +2.10       | RM&LE+Res.                                  | 2006-07            |
| 2                | Kotla, U-1, BBMB      | CS     | 1x29.25         | 51.28         |             | 2.33 (Res.)            | RM&LE+Res.                                  | 2006-07            |
| 4                | Shanan Ph.A, PSPCL    | SS     | 4x15+ 1x50      | 11.35         | 10.93       | -                      | R&M                                         | 2003-04            |
| 5                | Shanan, Ph.B, PSPCL   | SS     | 4x15+ 1x50 \$   | 35.95         | 13.34       | 60.00(LE)              | RM&LE(LE for 15 MW units+R&M for 50 MW unit | 2006-07            |
| 6                | Anandpur Sahib, PSPCL | SS     | 4x33.5          | 3.68          | 1.04        | -                      | R&M                                         | 2006-07            |
| 7                | UBDC I&II, PSPCL      | SS     | 3x15+ 3x15.45   | 7.89          | 2.44        | 45.00 (LE)             | RM&LE(LE for 3x15MW&R &M for 3x15.45 MW     | 2006-07            |
| 8                | Mukerian St.I, PSPCL  | SS     | 3x15            | 6.04          | 4.38        | -                      | R&M                                         | 2006-07            |
| Uttarakhand      |                       |        |                 |               |             |                        |                                             |                    |
| 9                | Chibro, UJVNL         | SS     | 4x60            | 10.45         | 10.52       | -                      | R&M                                         | 2006-07            |
| Karnataka        |                       |        |                 |               |             |                        |                                             |                    |
| 10               | Nagjhari, U-1&3,KPCL  | SS     | 2x135           | 26.12         | 21.62       | 30 (U)                 | RM&U                                        | 2002-03            |
| 11               | Supa PH, KPCL         | SS     | 2x50            | 2.64          | 2.47        | -                      | R&M                                         | 2002-03            |
| 12               | Mahatma Gandhi, VVNL  | SS     | 4x12+ 4x18      | 44.66         | 43.13       | 19.20 (U) +120.00 (LE) | RMU&LE                                      | 2002-03            |
| 13               | Munirabad, VVNL       | SS     | 2x9+ 1x10.3     | 3.64          | 3.53        | 28.30 (LE)             | RM&LE                                       | 2002-03            |

**Annex- III**  
**(Sheet 2/3)**

(Sheet 2 of 3)

| Sl. No      | Project, Agency           | CS/ SS | Inst. Cap. (MW) | Est. Cost     | Actual Exp | Benefits (MW)         | Category | Year of Completion |
|-------------|---------------------------|--------|-----------------|---------------|------------|-----------------------|----------|--------------------|
|             |                           |        |                 | (Rs. in Crs.) |            |                       |          |                    |
| 14          | Mani Dam, KPCL            | SS     | 2x4.5           | 1.00          | 1.00       | -                     | R&M      | 2002-03            |
| 15          | Shivasamudram , VVNL      | SS     | 6x3+ 4x6        | 68.38         | 73.17      | 42.00 (LE)            | RM&LE    | 2004-05            |
| 16          | Bhadra, Ph.II, KPCL       | SS     | 1x2             | 3.30          | 2.51       | 2.00 (LE)             | RM&LE    | 2005-06            |
| 17          | Varahi, KPCL              | SS     | 2x115           | 2.57          | 2.66       | -                     | R&M      | 2006-07            |
| 18          | Sharavathy, Ph.A, KPCL    | SS     | 10x103.5        | 5.22          | 3.52       | -                     | R&M      | 2006-07            |
| Kerala      |                           |        |                 |               |            |                       |          |                    |
| 19          | Neriamangalam KSEB        | SS     | 3x15            | 58.00         | 53.05      | 7.65 (U) +45.00(LE)   | RMU&LE   | 2006-07            |
| 20          | Pallivasal, KSEB          | SS     | 3x5+ 3x7.5      | 94.00         | 371.71     | 37.50 (LE)            | RM&LE    | 2002-03            |
| 21          | Sengulam, KSEB            | SS     | 4x12            | 114.00        |            | 48.00 (LE)            | RM&LE    | 2002-03            |
| 22          | Panniar, KSEB             | SS     | 2x15            | 62.00         |            | 30.00 (LE)            | RM&LE    | 2002-03            |
| Tamilnadu   |                           |        |                 |               |            |                       |          |                    |
| 23          | Pykara, TANGEDCO          | SS     | 3x6.65+ 1x11+2x | 26.06         | 20.147     | 58.95(LE)             | RM&LE    | 2004-05            |
| 24          | Papanasam, TANGEDCO       | SS     | 4x7             | 27.05         | 22.61      | 4.00 (U) + 28.00 (LE) | RMU&LE   | 2005-06            |
| Orissa      |                           |        |                 |               |            |                       |          |                    |
| 25          | Hirakud-I (Sw.yard), OHPC | SS     |                 | 9.85          | 15.88      | -                     | R&M      | 2006-07            |
| 26          | Hirakud-I,U-3&4, OHPC     | SS     | 2x24            | 126.14        | 108.86     | 16.00(U)+ 48.00(LE)   | RMU&LE   | 2005-06            |
| West Bengal |                           |        |                 |               |            |                       |          |                    |
| 27          | Maithon, U-2, DVC         | CS     | 1x20            | 42.08         | 36.94      | 3.20(U)+ 20.00(LE)    | RMU&LE   | 2004-05            |
| Maharastra  |                           |        |                 |               |            |                       |          |                    |
| 28          | Bhira Tail Race, MSPGCL   | SS     | 2x40            | 1.60          | 0.70       | -                     | R&M      | 2003-04            |
| 29          | Tillari, MSPGCL           | SS     | 1x60            | 4.50          | 4.24       | 6.0 (U)               | RM&U     | 2004-05            |

**Annex- III**  
**(Sheet 3/3)**

Sheet 5/5

| Sl. No    | Project, Agency            | CS/ SS | Inst. Cap. (MW) | Est. Cost     | Actual Exp | Benefits (MW)                                        | Category | Year of Completion |
|-----------|----------------------------|--------|-----------------|---------------|------------|------------------------------------------------------|----------|--------------------|
|           |                            |        |                 | (Rs. in Crs.) |            |                                                      |          |                    |
| 30        | Koyna Gen. Complex, MSPGCL | SS     | 4x70+4x80+4x80  | 12.00         | 11.50      | -                                                    | R&M      | 2004-05            |
| Meghalaya |                            |        |                 |               |            |                                                      |          |                    |
| 31        | Umium St.I, MePGCL         | SS     | 4x9             | 81.88         | 84.21      | 36(LE)                                               | RM&LE    | 2002-03            |
| Assam     |                            |        |                 |               |            |                                                      |          |                    |
| 32        | Khandong, NEEPCO           | CS     | 2x25            | 4.00          | 3.35       | -                                                    | R&M      | 2003-04            |
| Total     |                            |        | 4446.60         | 1016.31       | 1029.24    | 827.73<br>[122.05(U)<br>+701.25(LE)<br>+ 4.43(Res.)] |          |                    |

\$ - Installed Capacity of Shanan, Ph.B, at Sl. No. 5 not included in the total, as the same has been accounted for at Sl. No. 4.

Abbreviations: R&M – Renovation & Modernisation; U – Uprating; LE – Life Extension;  
Res – Restoration; MW – Mega Watt; CS-Central Sector: SS- State Sector

**State-wise List of Hydro RMU&LE schemes completed in the XI Plan**

| Sl. No           | Project, Agency         | CS/ SS | Inst. Cap. (MW) | Est. Cost     | Actual Exp | Benefits (MW)    | Category | Year of Completion |
|------------------|-------------------------|--------|-----------------|---------------|------------|------------------|----------|--------------------|
|                  |                         |        |                 | (Rs . in crs) |            |                  |          |                    |
| Himachal Pradesh |                         |        |                 |               |            |                  |          |                    |
| 1                | Dehar Ph. A BBMB        | CS     | 6x165           | 11.00         | 6.94       | -                | R&M      | 2010-11            |
| 2                | Dehar Ph. B BBMB        | CS     | 6x165           | 49.00         | 24.45      | 330(LE)          | RM&LE    | 2009-10            |
| Uttarakhand      |                         |        |                 |               |            |                  |          |                    |
| 3                | Tanakpur, NHPC          | CS     | 3x31.4          | 10.77         | 11.95      | -                | R&M      | 2007-08            |
| 4                | Khodri Ph.A, UJVNL      | SS     | 4x30            | 5.25          | 6.39       | -                | R&M      | 2008-09            |
| 5                | Chilla Ph.A, UJVNL      | SS     | 4x36            | 23.55         | 21.24      | -                | R&M      | 2008-09            |
| Andhra Pradesh   |                         |        |                 |               |            |                  |          |                    |
| 6                | Upper Sileru, APGENCO   | SS     | 4x60            | 4.20          | 3.34       | -                | R&M      | 2009-10            |
| Karnataka        |                         |        |                 |               |            |                  |          |                    |
| 7                | Nagjhari, U1 to 6, KPCL | SS     | 5x150 + 1x135   | 14.75         | 15.31      | -                | R&M      | 2009-10            |
| 8                | Sharavathy Ph.B, KPCL   | SS     | 10x103.5        | 20.50         | 11.14      | -                | R&M      | 2009-10            |
| 9                | Supa, KPCL              | SS     | 2x50            | 3.45          | 4.90       | -                | R&M      | 2009-10            |
| 10               | Bhadra, KPCL            | SS     | 2x12            | 1.44          | 0.85       | -                | R&M      | 2009-10            |
| 11               | Lingnamakki, KPCL       | SS     | 2x27.5          | 3.81          | 2.62       | -                | R&M      | 2010-11            |
| Tamil Nadu       |                         |        |                 |               |            |                  |          |                    |
| 12               | Mettur Dam, TANGEDCO    | SS     | 4x10            | 30.17         | 24.16      | 10 (U) + 40 (LE) | RMU&LE   | 2007-08            |
| Maharashtra      |                         |        |                 |               |            |                  |          |                    |
| 13               | Koyna St.I&II, MSPGCL   | SS     | 4x70 + 4x80     | 87.50         | 81.82      | -                | R&M      | 2008-09            |

**Annex- IV**  
**(Sheets 2 of 2)**

| Sl. No    | Project, Agency      | CS/ SS | Inst. Cap. (MW) | Est. Cost     | Actual Exp | Benefits (MW)                           | Category   | Year of Completion |
|-----------|----------------------|--------|-----------------|---------------|------------|-----------------------------------------|------------|--------------------|
|           |                      |        |                 | (Rs . in crs) |            |                                         |            |                    |
| 14        | Vaitarna, MSPGCL     | SS     | 1x60            | 16.00         | 0.14       | -                                       | R&M        | 2009-10            |
| 15        | Koyna Dam PH, MSPGCL | SS     | 2x18            | 5.78          | 0.25       | -                                       | R&M        | 2009-10            |
| 16        | Koyna St.III, MSPGCL | SS     | 4x80            | 16.65         | 5.79       | 320 (LE)                                | RM&LE      | 2011-12            |
| Manipur   |                      |        |                 |               |            |                                         |            |                    |
| 17        | Loktak, NHPC         | CS     | 3x30 derated    | 18.55         | 17.88      | 15.00 (Res.)                            | R&M + Res. | 2011-12            |
| Meghalaya |                      |        |                 |               |            |                                         |            |                    |
| 18        | Umium St.II, MePGCL  | SS     | 2x9             | 90.46         | 55.67      | 2(U)+18.00(LE)                          | RMU&LE     | 2011-12            |
| Total     |                      |        | 5841.2          | 412.83        | 294.84     | 735 [12.00(U) +708.00 (LE)+15.00 (Res)] |            |                    |

Abbreviations: R&M – Renovation & Modernisation; U – Uprating; LE – Life Extension;  
Res – Restoration; MW – Mega Watt; CS-Central Sector: SS- State Sector

**State-wise list of Hydro RMU&LE schemes completed in the XII Plan**

| Sl. No           | Project, Agency                            | CS/ SS | Inst. Cap. (No.x.MW ) | Est. Cost     | Actual Exp | Benefits (MW)  | Capacity after RMU&LE (MW) | Category  | Year of Completion |
|------------------|--------------------------------------------|--------|-----------------------|---------------|------------|----------------|----------------------------|-----------|--------------------|
|                  |                                            |        |                       | (Rs . in Crs) |            |                |                            |           |                    |
| Himachal Pradesh |                                            |        |                       |               |            |                |                            |           |                    |
| 1                | Bassi, HPSEB                               | SS     | 4x15                  | 124.25        | 158.26     | 6.0(U)+ 60(LE) | 66                         | RMU&LE    | 2013-14            |
| Jammu & Kashmir  |                                            |        |                       |               |            |                |                            |           |                    |
| 2                | Lower Jhelum, J&KSPDC                      | SS     | 3x35                  | 101.3         | 96.10      | 15.00(Res)     | 105                        | R&M+ Res. | 2014-15            |
| 3                | Sumbal Sindh, J&KSPDC                      | SS     | 2x11.3                | 25.00         | 24.59      | -              | 22.6                       | R&M       | 2016-17            |
| Uttarakhand      |                                            |        |                       |               |            |                |                            |           |                    |
| 4                | Pathri, UJVNL                              | SS     | 3x6.8                 | 113.25        | 108.3      | 20.40(LE)      | 20.4                       | RM&LE     | 2014-15            |
| 5                | Khatima, UJVNL                             | SS     | 3x13.8                | 256.77        | 148.88     | 41.40 (LE)     | 41.4                       | RM&LE     | 2016-17            |
| Uttar Pradesh    |                                            |        |                       |               |            |                |                            |           |                    |
| 6                | Matatila, UPJVNL                           | SS     | 3x10.2                | 10.29         | 7.21       | 30.6 (LE)      | 30.6                       | RM&LE     | 2015-16            |
| Andhra Pradesh   |                                            |        |                       |               |            |                |                            |           |                    |
| 7                | Lower Sileru, APGENCO                      | SS     | 4x115                 | 8.75          | 6.77       | -              | 460                        | R&M       | 2013-14            |
| 8                | Srisaillam RB, APGENCO                     | SS     | 7x110                 | 16.70         | 17.60      | -              | 770                        | R&M       | 2015-16            |
| Telangana        |                                            |        |                       |               |            |                |                            |           |                    |
| 9                | Nagarjuna Sagar Ph-I works, TSGENCO        | SS     | 1x110+ 7x100.8        | 33.35         | 13.90      | -              | 815.6                      | R&M       | 2012-13            |
| Karnataka        |                                            |        |                       |               |            |                |                            |           |                    |
| 10               | Supa, KPCL                                 | SS     | 2x50                  | 3.45          | 3.88       | -              | 100                        | R&M       | 2014-15            |
| 11               | Nagjhari,U-1 to 6, KPCL                    | SS     | 1x135 (U-6)           | 69.21         | 64.49      | 15 (U)         | 150                        | RM&U      | 2015-16            |
| 12               | Sharavathy Genarating Station (Ph B), KPCL | SS     | 10x103.5              | 20.00         | 29.27      | -              | 1035                       | R&M       | 2016-17            |
| Kerala           |                                            |        |                       |               |            |                |                            |           |                    |
| 13               | Idamalayar, KSEB                           | SS     | 2x37.5                | 14.50         | 13.22      | -              | 75                         | R&M       | 2012-13            |

| Sl. No      | Project, Agency        | CS/ SS | Inst. Cap. (No.x.MW ) | Est. Cost     | Actual Exp | Benefits (MW)                          | Capacity after RMU&LE | Category | Year of Completion |
|-------------|------------------------|--------|-----------------------|---------------|------------|----------------------------------------|-----------------------|----------|--------------------|
|             |                        |        |                       | (Rs . in Crs) |            |                                        |                       |          |                    |
| 14          | Sabarigiri, U-4 KSEB   | SS     | 1x55                  | 52.20         | 50.41      | 5(U)                                   | 60                    | RM&U     | 2014-15            |
| 15          | Poringalkuthu, KSEB    | SS     | 4x8                   | 88.63         | 51.90      | 4 (U)+ 32.00 (LE)                      | 36                    | RMU&LE   | 2015-16            |
| Tamil Nadu  |                        |        |                       |               |            |                                        |                       |          |                    |
| 16          | Periyar, TANGEDCO      | SS     | 4x35                  | 161.18        | 133.68     | 28.00(U)+ 140(LE)                      | 168                   | RMU&LE   | 2015-16            |
| Odisha      |                        |        |                       |               |            |                                        |                       |          |                    |
| 17          | Rengali Unit-1 OHPC    | SS     | 1x50                  | 47.50         | 36.76      | 50(LE)                                 | 50                    | RM&LE    | 2012-13            |
| 18          | Rengali Unit-2 OHPC    | SS     | 1x50                  | 25.20         | 20.73      | 50(LE)                                 | 50                    | RM&LE    | 2013-14            |
| West Bengal |                        |        |                       |               |            |                                        |                       |          |                    |
| 19          | Jaldhaka St.I, WBSEDCL | SS     | 3x9                   | 88.62         | 79.97      | 27 (LE)                                | 27                    | RM&LE    | 2016-17            |
| Assam       |                        |        |                       |               |            |                                        |                       |          |                    |
| 20          | Khandong, NEEPCO       | CS     | 1x25                  | 25.05         | 29.18      | 25(LE)                                 | 25                    | RM&LE    | 2014-15            |
| 21          | Kopili, NEEPCO         | CS     | 2x50                  | 50.22         | 50.92      | -                                      | 100                   | R&M      | 2014-15            |
| Total       |                        |        | 4149.60               | 1335.42       | 1146.02    | 549.40 [58(U)+ 476.40 (LE) + 15 (Res)] | 4207.6                |          |                    |

## State-wise list of Hydro RMU&amp;LE schemes completed during 2017-22

| Sl. No                          | Name of Project, Agency, Inst. Cap. (No. x MW)                 | CS/ SS | Capacity Covered Under RMU&LE (No.x MW) | Est. Cost     | Actual Exp. | Benefits (MW)               | Capacity after RMU&LE (MW) | Category | Year of Completion   |
|---------------------------------|----------------------------------------------------------------|--------|-----------------------------------------|---------------|-------------|-----------------------------|----------------------------|----------|----------------------|
|                                 |                                                                |        |                                         | (Rs. in Crs.) |             |                             |                            |          |                      |
| A. COMPLETED SCHEMES IN 2017-22 |                                                                |        |                                         |               |             |                             |                            |          |                      |
| Jammu & Kashmir (UT)            |                                                                |        |                                         |               |             |                             |                            |          |                      |
| 1                               | Salal, NHPC (6x115)                                            | CS     | 5x115                                   | 58.01         | 51.08       | -                           | 575                        | R&M      | Completed in 2019-20 |
| 2                               | Chenani, J&KSPDC (5x4.66)                                      | SS     | 5x4.66                                  | 34.28         | 21.84       | 23.30 (LE)                  | 23.3                       | RM&LE    | Completed in 2021-22 |
| 3                               | Ganderbal, (Unit-3) J&KSPDC (2x3+2x4.5)                        | SS     | 1x4.5                                   | 18.00         | 3.26        | 4.5 (LE)                    | 4.5                        | RM&LE    | Completed in 2021-22 |
| Punjab                          |                                                                |        |                                         |               |             |                             |                            |          |                      |
| 4                               | Ganguwal, BBMB (1x29.25+2x24.2) & Kotla, BBMB (1x29.25+2x24.2) | CS     | 1x24.2 (U-2)<br>1x24.2 (U-3)            | 14.19         | 9.58        | 48.4 (LE)                   | 48.4                       | RM&LE    | Completed in 2017-18 |
| Himachal Pradesh                |                                                                |        |                                         |               |             |                             |                            |          |                      |
| 5                               | Dehar Power House (Unit-6), BBMB (6x165)                       | CS     | 1x165                                   | 19.87         | 16.00       | -                           | 165                        | R&M      | Completed in 2017-18 |
| 6                               | Dehar Power House (Unit-3), BBMB (6x165)                       | CS     | 1x165                                   | 23.00         | 18.67       | -                           | 165                        | R&M      | Completed in 2021-22 |
| 7                               | Baira Siul, NHPC (3x60)                                        | CS     | 3x60                                    | 341.41        | 330         | 180 (LE)                    | 180                        | RM&LE    | Completed in 2021-22 |
| Gujarat                         |                                                                |        |                                         |               |             |                             |                            |          |                      |
| 8                               | Ukai, GSECL (4x75)                                             | SS     | 3x75 (U-1,2,&4)                         | 7.30          | 7.30        | -                           | 225                        | R&M      | Completed in 2021-22 |
| Karnataka                       |                                                                |        |                                         |               |             |                             |                            |          |                      |
| 9                               | Bhadra River Bed units, KPCL (2x12)                            | SS     | 2x12                                    | 23.55         | 20.12       | -                           | 24                         | R&M      | Completed in 2019-20 |
| Tamil Nadu                      |                                                                |        |                                         |               |             |                             |                            |          |                      |
| 10                              | Sholayar-I, TANGEDCO (2x35)                                    | SS     | 2x35                                    | 90.44         | 66.94       | 70 (LE) + 14(U)             | 84                         | RMU&LE   | Completed in 2019-20 |
| Kerala                          |                                                                |        |                                         |               |             |                             |                            |          |                      |
| 11                              | Sholayar, KSEB (3x18)                                          | SS     | 3x18                                    | 199.55        | 84.26       | 54 (LE)                     | 54                         | RM&LE    | Completed in 2020-21 |
| 12                              | Idukki 1 <sup>st</sup> stage, KSEB (3x130)                     | SS     | 3x130                                   | 89.90         | 65.76       | -                           | 390                        | R&M      | Completed in 2020-21 |
| Odisha                          |                                                                |        |                                         |               |             |                             |                            |          |                      |
| 13                              | Hirakud-I OHPCL (2x37.5)                                       | SS     | 2x37.5 (U5&6)                           | 158.77        | 101.83      | 75.00 (LE) + 12.2 (U)       | 87.2                       | RMU&LE   | Completed in 2021-22 |
| 14                              | Hirakud-II (Chiplima), OHPCL (3x24)                            | SS     | 1x24 (U-3)                              | 65.67         | 52.04       | 24.00 (LE)                  | 24                         | RM&LE    | Completed in 2019-20 |
| Sub Total (A)                   |                                                                |        | 2023.20                                 | 1143.94       | 848.68      | 505.4 [479.2(LE) + 26.2(U)] | 2049.40                    |          |                      |

@ This cost includes Scheme I only i.e. Rehabilitation of damaged/burnt equipments.

Abbreviations: R&M – Renovation & Modernisation; U – Uprating; LE – Life Extension; Res – Restoration;

MW – Mega Watt; CS-Central Sector; SS- State Sector

## State-wise List of Hydro RMU&amp;LE schemes programmed for completion during 2022-27

| Sl. No                                    | Name of Project, Agency Cap. (No.x MW)                        | Inst. | CS/ SS | Capacity Covered Under RMU&LE (No.x MW) | Est. Cost     | Actual Exp. | Benefits (MW)                    | Capacity after RMU&LE | Category | Year of Completion   |
|-------------------------------------------|---------------------------------------------------------------|-------|--------|-----------------------------------------|---------------|-------------|----------------------------------|-----------------------|----------|----------------------|
|                                           |                                                               |       |        |                                         | (Rs. in Crs.) |             |                                  |                       |          |                      |
| A. COMPLETED SCHEMES                      |                                                               |       |        |                                         |               |             |                                  |                       |          |                      |
| Himachal Pradesh                          |                                                               |       |        |                                         |               |             |                                  |                       |          |                      |
| 1                                         | Bhabha Power House, HPSEB (3x40)                              |       | SS     | 3x40                                    | 90.14         | 43.01       | 120(LE)                          | 120                   | RM&LE    | Completed in 2022-23 |
| 2                                         | Bhakra LB, BBMB (5x108)                                       |       | CS     | 5x108                                   | 489.77        | 583.86      | 540 (LE) + 90 (U)                | 630                   | RMU&LE   | Completed in 2023-24 |
| Uttarakhand                               |                                                               |       |        |                                         |               |             |                                  |                       |          |                      |
| 3                                         | Tiloth (Maneri Bhali - I), UJVNL (3x30)                       |       | SS     | 3x30                                    | 384.66        | 206.17      | 90 (LE)                          | 90                    | RM&LE    | Completed in 2022-23 |
| 4                                         | Dhalipur, UJVNL (3x17)                                        |       | SS     | 3x17                                    | 152.65        | 139.87      | 51 (LE)                          | 51                    | RM&LE    | Completed in 2023-24 |
| 5                                         | Dhakrani, UJVNL (3x11.25)                                     |       | SS     | 3x11.25                                 | 137.31        | 127.5       | 33.75 (LE)                       | 33.75                 | RM&LE    | Completed in 2026-27 |
| Uttar Pradesh                             |                                                               |       |        |                                         |               |             |                                  |                       |          |                      |
| 6                                         | Rihand, UPJVNL (6x50)                                         |       | SS     | 6x50                                    | 132.20        | 129.67      | 300 (LE)                         | 300                   | RM&LE    | Completed in 2022-23 |
| 7                                         | Obra, UPJVNL (3x33)                                           |       | SS     | 3x33                                    | 58.80         | 49.85       | 99 (LE)                          | 99                    | RM&LE    | Completed in 2025-26 |
| Telangana                                 |                                                               |       |        |                                         |               |             |                                  |                       |          |                      |
| 8                                         | Nagarjuna Sagar Phase-II works, TSGENCO (1x110+7x100.8)       |       | SS     | 1x110+7x100.8                           | 21.67         | 14.34       | -                                | 815.6                 | R&M      | Completed in 2022-23 |
| 9                                         | Nagarjuna Sagar Left Canal Power House, TSGENCO (2x30.6)      |       | SS     | 2x30.6                                  | 30.99         | 1.50        | -                                | 61.2                  | R&M      | Completed in 2022-23 |
| Karnataka                                 |                                                               |       |        |                                         |               |             |                                  |                       |          |                      |
| 10                                        | Munirabad Dam Power House, KPCL (2x9 + 1x10)                  |       | SS     | 2x9 + 1x10                              | 4.60          | 2.20        | -                                | 28                    | R&M      | Completed in 2022-23 |
| 11                                        | Linganamakki Dam Power House, KPCL (2x27.5)                   |       | SS     | 2x27.5                                  | 1.34          | 1.34        | -                                | 55                    | R&M      | Completed in 2022-23 |
| 12                                        | Gerusoppa Dam Power House (Sharavathy Tail Race), KPCL (4x60) |       | SS     | 4x60                                    | 59.66         | 2.026       | -                                | 240                   | R&M      | Completed in 2023-24 |
| Assam                                     |                                                               |       |        |                                         |               |             |                                  |                       |          |                      |
| 13                                        | Kopili Power Station, NEEPCO (4x50)                           |       | CS     | 4x50                                    | 1075.19       | 1201.65     | 200 (LE)                         | 200                   | RM&LE    | Completed in 2024-25 |
| 14                                        | Khandong Power Station, NEEPCO (2x23)                         |       | CS     | 2x23                                    | 277.74        | 441.33      | 46(LE)                           | 46                    | RM&LE    | Completed in 2025-26 |
| Sub Total(A)                              |                                                               |       |        | 2679.55                                 | 2916.72       | 2944.32     | 1569.75 [1479.75(LE)+ 90(U)]     | 2769.55               |          |                      |
| B. Ongoing Schemes – UNDER IMPLEMENTATION |                                                               |       |        |                                         |               |             |                                  |                       |          |                      |
| Tamil Nadu                                |                                                               |       |        |                                         |               |             |                                  |                       |          |                      |
| 15                                        | Moyar PH, TNPGL (3x12)                                        |       | SS     | 3x12                                    | 121.127       | 106.26      | 36 (LE) + 6 (U)                  | 42                    | RMU&LE   | 2026-27              |
| 16                                        | Kodayar PH-I, TNPGL (1x60)                                    |       | SS     | 1x60                                    | 80.96         | 35          | 60 (LE) + 10 (U)                 | 70                    | RMU&LE   | 2026-27              |
| Karnataka                                 |                                                               |       |        |                                         |               |             |                                  |                       |          |                      |
| 17                                        | Shivasamudram, KPCL (6x3+4x6)                                 |       | SS     | 6x3+4x6                                 | 169.18        | 106         | 42 (LE)                          | 42                    | RM&LE    | 2026-27              |
| 18                                        | Sharavathy Generating Station, KPCL (10x103.5)                |       | SS     | 10x103.5                                | 196.56        | 8.33        | 1035 (LE)                        | 1035                  | RM&LE    | 2026-27              |
| Kerala                                    |                                                               |       |        |                                         |               |             |                                  |                       |          |                      |
| 19                                        | Kuttiyadi, KSEB (3x25)                                        |       | SS     | 3x25                                    | 90.18         | 63.11       | 75 (LE) + 7.5 (U)                | 82.5                  | RMU&LE   | 2026-27              |
| Odisha                                    |                                                               |       |        |                                         |               |             |                                  |                       |          |                      |
| 20                                        | Balimela, OHPCL (6x60)                                        |       | SS     | 6x60                                    | 382.91        | 239.28      | 360 (LE)                         | 360                   | RM&LE    | 2026-27              |
| Jharkhand                                 |                                                               |       |        |                                         |               |             |                                  |                       |          |                      |
| 21                                        | Panchet U-1, DVC (2x40)                                       |       | CS     | 1x40 (U-1)                              | 121.85        | 102         | 40 (LE) + 6 (U)                  | 46                    | RMU&LE   | 2026-27              |
| Meghalaya                                 |                                                               |       |        |                                         |               |             |                                  |                       |          |                      |
| 22                                        | Uiam St.III, (Kyrdekulai) MePGCL (2x30)                       |       | SS     | 2x30                                    | 408.00        | 262.50      | 60 (LE) + 6 (U)                  | 66                    | RMU&LE   | 2026-27              |
| Sub Total (B)                             |                                                               |       |        | 1708.00                                 | 1570.77       | 922.48      | 1743.50 [1708.00(LE)+ 35.50(U)]  | 1743.50               |          |                      |
| Total (A+B)                               |                                                               |       |        | 4387.55                                 | 4487.49       | 3866.80     | 3313.25 [3187.75(LE)+ 125.50(U)] | 4513.05               |          |                      |

Abbreviations: R&M – Renovation & Modernisation; U – Uprating; LE – Life Extension; Res – Restoration;  
MW – Mega Watt; CS-Central Sector; SS- State Sector

A-13

|                                               |                                                   |    |                          |                |               |                                                  |                 |        |         |
|-----------------------------------------------|---------------------------------------------------|----|--------------------------|----------------|---------------|--------------------------------------------------|-----------------|--------|---------|
| <b>Tamil Nadu</b>                             |                                                   |    |                          |                |               |                                                  |                 |        |         |
| 31                                            | Kodayar PH-II, TNPGL (1x40 )                      | SS | 1x40                     | -              | -             | 40 (LE) + 6 (U)                                  | 46              | RMU&LE | 2027-32 |
| <b>Meghalaya</b>                              |                                                   |    |                          |                |               |                                                  |                 |        |         |
| 32                                            | Umiam-Umtru Stage-IV, MePGCL (2x30)               | SS | 2x30                     | 500            | -             | 60 (LE)                                          | 60              | RM&LE  | 2027-32 |
| <b>Sub Total(C)</b>                           |                                                   |    | <b>3284.00</b>           | <b>2160.04</b> | <b>6.137</b>  | <b>3301.5<br/>3284(LE) + 17.5(U)</b>             | <b>3301.5</b>   |        |         |
| <b>D. Ongoing Schemes – UNDER RLA STUDIES</b> |                                                   |    |                          |                |               |                                                  |                 |        |         |
| <b>Jammu &amp; Kashmir (UT)</b>               |                                                   |    |                          |                |               |                                                  |                 |        |         |
| 33                                            | Salal Stage-I, (Unit 1,2 &3) NHPC (3x115)         | CS | 3x115                    | -              | -             | 345(LE)                                          | 345             | RM&LE  | 2027-32 |
| 34                                            | Salal Stage-II, (Unit 4,5 &6) NHPC (6x115)        | CS | 3x115                    | -              | -             | 345 (LE)                                         | 345             | RM&LE  | 2027-32 |
| <b>Punjab</b>                                 |                                                   |    |                          |                |               |                                                  |                 |        |         |
| 35                                            | Shanan HEP, PSPCL (1x50+ 4x15)                    | SS | 1x50+ 4x15               | -              | -             | 110 (LE)                                         | 110             | RM&LE  | 2027-32 |
| <b>Himachal Pradesh</b>                       |                                                   |    |                          |                |               |                                                  |                 |        |         |
| 36                                            | Chamera-I, NHPC (3x180)                           | CS | 3x180                    | -              | -             | 540 (LE)                                         | 540             | RM&LE  | 2027-32 |
| <b>Uttarakhand</b>                            |                                                   |    |                          |                |               |                                                  |                 |        |         |
| 37                                            | Tanakpur, NHPC (3x31.4)                           | CS | 3x31.4                   | -              | -             | 94.2 (LE)                                        | 94.2            | RM&LE  | 2027-32 |
| 38                                            | Chibro, UJVNL (4x60)                              | SS | 4x60                     | -              | -             | 240 (LE)                                         | 240             | RM&LE  | 2027-32 |
| 39                                            | Khodri, UJVNL (4x30)                              | SS | 4x30                     | -              | -             | 120 (LE)                                         | 120             | RM&LE  | 2027-32 |
| <b>Rajasthan</b>                              |                                                   |    |                          |                |               |                                                  |                 |        |         |
| 40                                            | Jawahar Sagar Power Station, Jawahar Sagar (3x33) | SS | 3x33                     | -              | -             | 99(LE)                                           | 99              | RM&LE  | 2027-32 |
| <b>Madhya Pradesh</b>                         |                                                   |    |                          |                |               |                                                  |                 |        |         |
| 41                                            | Bansagar Ton-I, MPPGCL (3x105)                    | SS | 3x105                    | -              | -             | 315 (LE)                                         | 315             | RM&LE  | 2027-32 |
| <b>Maharashtra</b>                            |                                                   |    |                          |                |               |                                                  |                 |        |         |
| 42                                            | Vaitarna, MSPGCL (1x60)                           | SS | 1x60                     | -              | -             | 60 (LE)                                          | 60              | RM&LE  | 2027-32 |
| 43                                            | Koyna Dam foot (Right Bank), MSPGCL (2x20)        | SS | 2x20                     | -              | -             | 40 (LE)                                          | 40              | RM&LE  | 2027-32 |
| 44                                            | Koyna St-3, MSPGCL (4x80)                         | SS | 4x80                     | -              | -             | 320 (LE)                                         | 320             | RM&LE  | 2027-32 |
| 45                                            | Tillari, MSPGCL (1x60)                            | SS | 1x60                     | -              | -             | 60(LE)                                           | 60              | RM&LE  | 2027-32 |
| 46                                            | Bhira Tail Race (2x40)                            | SS | 2x40                     | -              | -             | 80(LE)                                           | 80              | RM&LE  | 2027-32 |
| <b>Jharkhand</b>                              |                                                   |    |                          |                |               |                                                  |                 |        |         |
| 47                                            | Subernrekha, JUUNL (2x65)                         | SS | 2x65                     | 262.9          | -             | 130 (LE)                                         | 130             | RM&LE  | 2029-30 |
| <b>Karnataka</b>                              |                                                   |    |                          |                |               |                                                  |                 |        |         |
| 48                                            | Varahi Underground Power House (4x115)            | SS | 2x115                    | -              | -             | -                                                | 230             | R&M    | 2027-32 |
| 49                                            | Linganamakki Dam Power House                      | SS | 2x27.5                   | 15.4           | -             | 55(LE)                                           | 55              | RM&LE  | 2027-32 |
| <b>Kerala</b>                                 |                                                   |    |                          |                |               |                                                  |                 |        |         |
| 50                                            | Sabarigiri, (Unit-1,2,3, 5) KSEB (4x55)           | SS | 4x55 (Unit-1,2, ,3, & 5) | -              | -             | 220 (LE) + 20 (U)                                | 240             | RMU&LE | 2027-32 |
| <b>Tamil Nadu</b>                             |                                                   |    |                          |                |               |                                                  |                 |        |         |
| 51                                            | Kundah-I, TNPGL (3x20)                            | SS | 3x20                     | -              | -             | 60 (LE)                                          | 60              | RM&LE  | 2027-32 |
| 52                                            | Kundah-II, TNPGL (5x35)                           | SS | 5x35                     | -              | -             | 175 (LE)                                         | 175             | RM&LE  | 2027-32 |
| 53                                            | Kundah-III, TNPGL (3x60)                          | SS | 3x60                     | -              | -             | 180 (LE)                                         | 180             | RM&LE  | 2027-32 |
| 54                                            | Kundah-IV, TNPGL (2x50)                           | SS | 2x50                     | -              | -             | 100 (LE)                                         | 100             | RM&LE  | 2027-32 |
| 55                                            | Kundah-V, TNPGL (2x20)                            | SS | 2x20                     | -              | -             | 40 (LE)                                          | 40              | RM&LE  | 2027-32 |
| 56                                            | Mettur Tunnel, TNPGL (4x50)                       | SS | 4x50                     | -              | -             | 200 (LE)                                         | 200             | RM&LE  | 2027-32 |
| 57                                            | Sarkarpathy, TNPGL (1x30)                         | SS | 1x30                     | -              | -             | 30 (LE)                                          | 30              | RM&LE  | 2027-32 |
| 58                                            | Sholayar-II, TNPGL (1x25)                         | SS | 1x25                     | -              | -             | 25 (LE)                                          | 25              | RM&LE  | 2027-32 |
| 59                                            | Suruliyar, TNPGL (1x35)                           | SS | 1x35                     | -              | -             | 35 (LE)                                          | 35              | RM&LE  | 2027-32 |
| 60                                            | Kadamparai PH, TNPGL (4x100)                      | SS | 4x100                    | -              | -             | 400 (LE)                                         | 400             | RM&LE  | 2027-32 |
| 61                                            | Aliyar, TNPGL (1x60)                              | SS | 1x60                     | -              | -             | 60 (LE)                                          | 60              | RM&LE  | 2027-32 |
| 62                                            | Lower Mettur-I, TNPGL (2x15)                      | SS | 2x15                     | -              | -             | 30 (LE)                                          | 30              | RM&LE  | 2027-32 |
| 63                                            | Lower Mettur-II, TNPGL (2x15)                     | SS | 2x15                     | -              | -             | 30 (LE)                                          | 30              | RM&LE  | 2027-32 |
| 64                                            | Lower Mettur-III, TNPGL (2x15)                    | SS | 2x15                     | -              | -             | 30 (LE)                                          | 30              | RM&LE  | 2027-32 |
| 65                                            | Lower Mettur-IV, TNPGL (2x15)                     | SS | 2x15                     | -              | -             | 30 (LE)                                          | 30              | RM&LE  | 2027-32 |
|                                               |                                                   |    | <b>4828.20</b>           | <b>278.30</b>  | <b>0.00</b>   | <b>4618.20<br/>[4598.2 (LE)+ 20(U)]</b>          | <b>4848.20</b>  |        |         |
| <b>Total (A+B+C+D)</b>                        |                                                   |    | <b>11556.35</b>          | <b>6202.45</b> | <b>642.49</b> | <b>9899.88<br/>[9755.55 (LE)+<br/>144.33(U)]</b> | <b>11700.68</b> |        |         |

Abbreviations: R&M – Renovation & Modernisation; U – Uprating; LE – Life Extension; Res – Restoration;  
MW – Mega Watt; CS-Central Sector; SS- State Sector

## Abbreviations

|    |         |                                                              |
|----|---------|--------------------------------------------------------------|
| 1  | APGENCO | Andhra Pradesh Generation Corporation Limited                |
| 2  | BBMB    | Bhakra Beas Management Board                                 |
| 3  | DVC     | Damodar Valley Corporation                                   |
| 4  | GSECL   | Gujarat State Electricity Corporation Limited                |
| 5  | HPSEB   | Himachal Pradesh State Electricity Board                     |
| 6  | J&KSPDC | Jammu & Kashmir State Power Development Corpn.               |
| 7  | JSEB    | Jharkhand State Electricity Board.                           |
| 8  | KPCL    | Karnataka Power Corporation Limited                          |
| 9  | KSEB    | Kerala State Electricity Board                               |
| 10 | MSPGCL  | Maharashtra State Power Generation Corporation Limited       |
| 11 | MePGCL  | Meghalaya Power Generation Corporation Limited               |
| 12 | MPPGCL  | Madhya Pradesh Power Generation Corporation Limited          |
| 13 | NEEPCO  | North-East Electric Power Corporation Limited                |
| 14 | OHPC    | Odisha Hydro Power Corporation Limited                       |
| 15 | PSPCL   | Punjab State Power Corporation Limited                       |
| 16 | RRVUNL  | Rajasthan Rajya Vidyut Utpadan Nigam Limited                 |
| 17 | TNPGCL  | Tamil Nadu Power Generation Corporation Limited              |
| 18 | TSGENCO | Telangana State Power Generation Corporation Limited         |
| 19 | UPJVNL  | Uttar Pradesh Jal Vidyut Nigam Limited                       |
| 20 | UJVNL   | Uttarakhand Jal Vidyut Nigam Limited                         |
| 21 | VVNL    | Vishwesharayya Vidyut Nigam Limited                          |
| 22 | WBSEDCL | West Bengal State Electricity & Distribution Company Limited |
| 23 | AVR     | Automatic Voltage Regulator                                  |
| 24 | BOQ     | Bill of Quantity                                             |
| 25 | CERC    | Central Electricity Regulatory Commission                    |
| 26 | CPRI    | Central Power Research Institute                             |
| 27 | DPR     | Detailed Project Report                                      |
| 28 | DVR     | Digital Voltage Regulator                                    |
| 29 | JICA    | Japan International Co-operation Agency                      |
| 30 | LOA     | Letter of Award                                              |
| 31 | RLA     | Residual Life Assessment                                     |