#### Government of India Central Water Commission Project Appraisal Organization

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7<sup>th</sup> Floor (S), Sewa Bhawan, R,K. Puram, New Delhi. Dated: 30.12.2020

#### **Minutes of Meeting**

A copy of the Summary Record of discussion of the 147<sup>th</sup> Meeting of the Advisory Committee of DoWR, RD&GR on Irrigation, Flood Control & Multipurpose Projects held under the Chairmanship of Secretary, Department of Water Resources, River Development & Ganga Rejuvenation on 24.08.2020 through video conferencing is enclosed herewith for information and further necessary action, please.

It is requested that comments, if any, on the enclosed Summary Record of Discussion, may kindly be forwarded to this office within 15 days.

Enclo: As above.

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(Ashok S. Goel)

Member Secretary of the Advisory Committee & Chief Engineer (PAO)

To,

#### **Members of Committee:**

- 1. Chairman, CWC, Sewa Bhawan, R. K. Puram, New Delhi.
- 2. Secretary (Expenditure), Ministry of Finance, 1<sup>st</sup> Floor, North Block, New Delhi.
- 3. Secretary, Department of Power, Room No. 205, S.S. Bhawan, II Floor, New Delhi.
- 4. Secretary, Ministry of Environment & Forests & CC, 4<sup>th</sup> Floor, Prithvi Block, Indira Paryavaran, Jor Bagh, New Delhi.
- 5. Secretary, Department of Agriculture, Cooperation & Farmers Welfare, R. No. 126, Krishi Bhawan, New Delhi.
- 6. Secretary, Ministry of Tribal Affairs, Room No. 738, A-Wing, Shastri Bhawan, New Delhi.
- 7. Director General, ICAR, Room No-108, Krishi Bhawan, New Delhi.
- 8. Chairman, CEA, Sewa Bhawan, R. K. Puram, New Delhi.
- 9. Chairman, Central Ground Water Board, Jam Nagar House, New Delhi.
- 10. Adviser (Power), NITI Aayog, Room No. 248, Yojana Bhawan, New Delhi.
- 11. Adviser (WR&LR), NITI Aayog, Room No. 230, Yojana Bhawan, New Delhi.
- 12. Joint Secretary & Financial Adviser, DoWR, RD & GR, S.S. Bhawan, Delhi.

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#### **Special Invitees:**

- 1. Additional Secretary, DoWR, RD&GR.
- 2. Chairman, GFCC, Sinchai Bhawan, Patna, Bihar
- 3. Member (D&R), CWC, New Delhi.
- 4. Member (RM), CWC, New Delhi.
- 5. Member (WP&P), CWC, New Delhi.
- 6. Principal Secretary, WR, Govt. of Uttar Pradesh, Lucknow
- 7. Principal Secretary, WR, Govt. of Himachal Pradesh, Shimla
- 8. Principal Secretary, BTC, Kokrajhar, Assam
- 9. Principal Secretary, Irrigation, KAAC, Diphu, Assam.
- 10. Additional Chief Secretary, WRD, Govt of Karnataka, Bangalore
- 11. Engineer in Chief, Govt of U.P, Lucknow
- 12. Chief Engineer, Jal Shakti Vibhag, Mandi, H.P.
- 13. Chief Engineer, UBP, VJNL, Chitradurga, Karnataka
- 14. Additional Chief Engineer, Irrigation, KAAC, Diphu, Assam
- 15. Council Head of Department, Irrigation, BTC, Kokrajhar, Assam.
- 16. Joint Secretary (RD&PP), DoWR, RD&GR.
- 17. Joint Secretary (IC&GW), DoWR, RD&GR.
- 18. Chief Advisor (Cost), Department of Expenditure, Lok Nayak Bhawan, New Delhi.
- 19. Commissioner (SPR), DoWR, RD & GR, New Delhi.
- 20. Commissioner (FM), DoWR, RD & GR, New Delhi.
- 21. Chief Engineer (IMO), CWC, New Delhi.
- 22. Sh. P. M. Scott, Chief Engineer (B&OBO), CWC, Shillong.
- 23. Chief Engineer (FM), CWC, New Delhi.
- 24. Chief Engineer (BBO), CWC, Guwahati.
- 25. Chief Engineer (IBO), CWC, Chandigarh.
- 26. Chief Engineer, Monitoring (South), CWC, Bangalore.

#### **Copy for kind information to:**

1. Sr. PPS to Secretary, DoWR, RD & GR, Room No. 407, Shram Shakti Bhawan, New Delhi.

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Government of India
Ministry of Jal Shakti
Deptt. of Water Resources, River Development & Ganga Rejuvenation
Central Water Commission
Project Appraisal Organization

# ADVISORY COMMITTEE FOR CONSIDERATION OF TECHNO-ECONOMIC VIABILITY OF MAJOR& MEDIUM IRRIGATION, FLOOD CONTROL AND MULTIPURPOSE PROJECT PROPOSALS

### 147th MEETING HELD ON DECEMBER 24TH 2020 THROUGH VC BRIEF RECORD OF DISCUSSIONS

The 147<sup>th</sup> meeting of the Advisory Committee ofDepartment of Water Resources, River Development & Ganga Rejuvenation (DoWR, RD&GR), Ministry of Jal Shakti (MoJS), for consideration of techno-economic viability of major & medium irrigation, flood control and multipurpose project proposals (Advisory Committee),was held under the Chairmanship of Shri U.P. Singh, Secretary to the Government of India, DoWR, RD&GR, MoJS on Thursday, 24<sup>th</sup>December, 2020 through video conferencing. The list of participants is annexed herewith.

At the outset, the Chairman welcomed the participants, and requested the Member Secretary to take up the agenda items. A brief record of the discussions/ decisions taken in the meeting are given below.

#### I. Confirmation of the Minutes of the 146<sup>th</sup> Meeting of the Advisory Committee:

It was informed that the 146<sup>th</sup>meeting of the Advisory Committee was held on 14/08/2020, through Video Conferencing. Thereafter, the Summary Record of Discussions was circulated vide letter no. No. T-84/5/2020-CE-PAO/511-36 dated 20/08/2020. It was further informed that no comments on the same have been received. Thereafter, the Committee confirmed the minutes of 146<sup>th</sup> meeting of the Advisory Committee.

#### II. Follow up Discussions of the 146<sup>th</sup> Meeting:

The Member Secretary informed that there is no item under this agenda. He further suggested that instead of taking up follow up of the previous meeting as a separate agenda, it may be

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included as a part of Agenda Item No.1, i.e., confirmation of the minutes of previous meeting, itself. The same was approved by the Committee.

#### III. Project Proposals considered by the Advisory Committee:

#### 1. Upper Bhadra Irrigation Project, Karnataka (Major):

A detailed presentation was made by the Project Authorities, whereby it was informed that the project was initially started in 2008. It envisages lifting of 17.4 TMC from river Tunga, to Bhadra reservoir. From Bhadra, total 29.9 TMC is lifted for irrigating 2.25 lakh ha and also filling about 367 tanks. The estimated cost of the project is Rs. 16,125.48 crore at 2018-19 price level, out of which Rs. 4,830 crore has already been spent. The BC Ratio for the project is 1.024, and it is proposed to be completed in about 3 years.

The Chairman wanted to know the reason for placing the project before the Advisory Committee at this stage, when about 30% works have already been executed. It was clarified by the Project Authorities that the project has been under appraisal for some time now. Since the key project parameters underwent changes on account of re-planning by the State Govt., therefore the appraisal had to be re-initiated, causing further delay in its appraisal.

Concern was expressed on the BC Ratio being barely above 1. The Project Authorities clarified that the entire command of the project is in most drought prone areas of the State, thus the BC Ratio of 1.024, being more than the minimum requirement of 1, may be considered favorably. Further, Members expressed concern that the project may have adverse impact on the irrigation and hydropower of the existing/ planned projects on river Tunga or Bhadra.It was clarified by Project Authorities that firstly the project is completely as per the Awards of Krishna as well as Godavari Water Dispute Tribunals, and secondly while working out the hydrology, all existing/ planned usages have been duly considered by CWC.

Representatives from Department of Expenditure pointed out that establishment charges @ 10 percent of works cost has been included. It was also pointed out that audit and accounts charges @ 1%, is on much higher side, especially since the project cost is quite high, making the 1% itself as substantial. Further, possible repetition of audit and account charges, being mentioned separately as well as included in establishment charges, was also flagged. It was however, clarified by the Member Secretary, that the same are as per CWC Guidelines. Further, the Chairman also mentioned that these are only estimated cost, while the actual cost

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for works, as well as the establishment and audit/ accounts charges, are to be booked as per actuals.

Department of Expenditure representatives also submitted that the yield considered for the project for post irrigation period, is much higher than average yield data of the state, as available in the reports of Ministry of Agriculture & Farmers Welfare. It was clarified by the Project Authorities that the project envisages drip irrigation in the entire command, due to which substantial enhancement in the yield, as well as quality of yield, is expected. Further, the yield adopted in the DPR is as per recommendations of the Agriculture Department, Govt. of Karnataka, specifically for the project.

While accepting the recommendations of Agriculture Department of the State Govt. in this regard, the Committee also felt it necessary to have a mechanism in place whereby the figures quoted by State Govt. authorities may be broadly re-affirmed at the appraisal stage, based on the trends and statistics of the region concerned. In this regard, the Committee recommended that:

- a. A mechanism needs to be devised whereby the appraising agencies do not merely go by the certificates from the State Agriculture agencies, but also examine if the yield, and unit price of the yield, is within acceptable norms.
- b. An evaluation process also needs to be in place under DoWR, RD & GR, whereby the assumptions on proposed benefits adopted at the DPR stage, are compared against the actual realizations after the project is completed.

Continuing discussions on the project, it was informed that the project has the requisite Environmental, Forest and State Financial Concurrence, in place. It was further informed that a small component of R&R, for estimated cost of Rs. 6.2 crore, is pending, which shall be done as per the prevalent norms. After detailed discussion, the Advisory Committee accepted the proposal for Upper Bhadra Project. However, the acceptance of the proposal by the Advisory Committee of DoWR,RD&GR does not guarantee any eligibility towards release of fund under any existing scheme of DoWR,RD&GR.

#### 2. Sukla Irrigation Project, Assam (Major - ERM).

A detailed presentation was made by the Project Authorities. The members were appraised that the project was initially operationalized in 1978 for CCA of 18,267 ha, with irrigation intensity of 135%. However, the project could not sustain its envisaged irrigation benefits, and by 1982-83, the annual irrigation was reduced to barely 66% of the target. Subsequently, by 2000, the project became virtually defunct. Thereafter, a partial ERM of the project, primarily limited to

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headworks, was taken up in 2008 with assistance fromNABARD, however a comprehensive ERM is now proposed. The key components of the presently proposed ERM include concrete lining of full length of main canals, and renovation of structures and balance part of headworks. The estimated cost for the proposed ERM isRs. 259.73 crore. After the ERM, CCA of 12,150 ha is likely to be provided with irrigation, with planned annual irrigation being 17,900 ha. The BC Ratio is 1.018, which being more than the threshold of 1 for the region, needs to be considered favorably.

The Chairman expressed concern that a water resources project built with huge cost, and designed to perform for centuries together, fails to perform within a short span of time, which indicate chronic casualness towards design/ implementation and maintenance of the project. The Additional Secretary, DoWR, RD & GR, desired to know how the Project Authorities can assure that the investment in the currently proposed ERM, would also not be frittered away within a short time. She also stressed the importance of building up support structure with active participation from the end beneficiary, i.e., the farmers, in the form of Water User Association etc., so that such vital investments are not allowed to wither away. The Project Authorities assured the Committee that in the current proposal, all possible care has been taken to ensure long term realization of the envisaged benefits.

Further, the Department of Expenditure representatives raised concern over considering both, miscellaneous charges, as well as contingency charges, in the estimate. Further, it was also submitted by DoE representatives that separate inclusion of labour cess of @ 1% on the aggregate amount of cost of Works, should not be acceptable since it is to be paid by the Contractor. It was clarified by Member Secretary that the above referred charges are in consonance with CWC Guidelines, and duly examined by the specialized Cost Appraisal unit of CWC. Regarding labour cess, It was informed by the Member Secretary that the issue has been dealt with in detail in the 145<sup>th</sup> meeting of the Advisory Committee, and duly incorporated in its minutes. As recorded therein, either the amount be indicated separately in the cost as is the case here, or the same can be added in works, when the contractor quotes the same as a part of its bid. In both cases, the estimated cost for the project is not affected. It was also emphasized that the presently proposed figures are only broad estimates, which are likely to vary at the time of implementation.

The representatives of Department of Expenditure pointed out possible overestimation of yield and post-irrigation cost of the crop. Since the issue was already deliberated upon at length in case of Upper Bhadra Project, need for any further disc

felt by the Committee. Against a specific query by DoE representative, it was clarified that for BC Ratio calculations, the rate of produce adopted is at the farmer's end, and not the retail price.

The Committee was further briefed that being an ERM project, there is no requirement for Environmental or Forest clearance, or R&R related clearances. Further, financial concurrence from Bodoland Territorial Council, Assam, is already in place. After detailed discussion, the Advisory Committee accepted the proposal. However, the acceptance of the proposal by the Advisory Committee of DoWR,RD&GR does not guarantee any eligibility towards release of fund under any existing scheme of DoWR,RD&GR.

#### 3. Amreng Irrigation Project (Medium - Assam).

A detailed presentation was made by the Project Authorities. The Committee was briefed that in 1999, WAPCOS had prepared a feasibility report for intercepting Amreng river just upstream of its confluence with Kopili river, on Meghalaya-Assam border in Karbi Anglong Autonomous Territorial Council (KAAC) region. In 2001, the proposal was accepted by the Planning Commission for a cost of Rs. 61.54 crore. Thereafter in 2004, a few activities such as survey of command area, construction of part of the main canal and a few structures, etc. was taken up, but work on the project came to a standstill thereafter, because of non-availability of funds.

The current proposal envisages construction of a 110.5 m long concrete barrage, having 6 no. gates of 15 x 3.3 m each. A 24 km long lined main canal is envisaged on left bank of river with a design discharge of 8 cumec, providing irrigation to 6,800 ha CCA, with 153.7% annual intensity. The cost of the project is estimated to be Rs. 540.4585 crore (2019-2020 Price level), out of which an expenditure of Rs. 67.467 crore has already been incurred. The BC Ratio for the project works out to be 2.32. However, Financial Concurrence from KAAC for the project is awaited. The Project Authorities also informed that there is no submergence of land either forest or public and therefore, there are no issues of R&R.

Against a specific query on the possible sources of funds being contemplated, it was informed by the Project Authorities that the project may be funded under State Owned Programme Development (SOPD), or any other scheme of State Govt. of Assam.

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The representative from Niti Aayog desired to know that with the change in discharge of main canal, would the investments made so far on the project, were likely to go waste. It was clarified by CWC that the canals/ structures constructed earlier will be directly integrated in the new works. Niti Aayog representative also flagged the issue of No Objection Certificate (NOC) from Meghalaya being valid for a trough type weir, though now a barrage is being proposed. CWC clarified that the since no impounding is proposed now also, and there is no change in water usage for the project, the NOC continues to remain valid.

The representative of Ministry of Environment, Forests and Climate Change (MoEF&CC) pointed out that the project may require environmental clearance from MoEF&CC, Govt. of India. It was clarified that the Project Authorities shall have to seek all mandatory clearances relevant for the project, as per the existing guidelines issued by the MoEF&CC, before taking up the implementation of the project.

The representatives from Department of Expenditure raised concerns regarding establishment charges, audit and accounts charges, and also yield as well as the yield rate adopted by the Project Authorities. The Committee addressed the same, along the lines mentioned for the above projects taken up in this meeting, as per details above.

After detailed discussion, the Advisory Committee accepted the proposal, subject to the prescribed Environmental, Forest and R&R clearances, and also subject to financial concurrence from KAAC/ Govt. of Assam. However, the acceptance of the proposal by the Advisory Committee of DoWR,RD&GR does not guarantee any eligibility towards release of fund under any existing scheme of DoWR,RD&GR.

#### 4. Flood scheme: Channelisation of Markanda River in Tehsil Nahan Distt. Sirmour, HP.

A detailed presentation was made by the Project Authorities, whereby participants were briefed that in view of the vulnerability of the region for flooding, a mathematical modeling study was done by CWPRS, Pune, whereby bank stabilization through protection revetments, gabion walls, cross structures on vulnerable reaches, on both the banks, has been suggested. The present proposal is based on the above study. It was further presented that the area to be benefitted is 462.18 ha, while the cost has been estimated to be Rs. 105.66 crore (2019 PL), with B.C.Ratio working out to be 1.45, which is acceptable considering the hilly state status of Himachal Pradesh.

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It was also brought to the notice of the Committee that the forest clearance for the project isin place, and no land acquisition is proposed in the scheme. Further, the scheme has been duly recommended by the State Technical Advisory Committee, and also by CWC. It was further briefed that an NOC from Govt. of Haryana has also been obtained, for the present scheme.

The representatives from Department of Expenditure raised concerns regarding yield as well as the yield rate adopted by the Project Authorities, which were dealt with by the Committee along the lines mentioned for the above projects. The representatives from Deptt. of Expenditure further pointed out that in this scheme, apart from the farm produce, significant value has also been assigned to the by-products. The Project Authorities clarified that the same is as per the certificate given by the Agriculture Department.

After detailed discussion, the Advisory Committee accepted the proposal. However, the acceptance of the proposal by the Advisory Committee of DoWR,RD&GR does not guarantee any eligibility towards release of fund under any existing scheme of DoWR,RD&GR.

### 5. Flood scheme: Balance works of Bhojpur-Shahpur Bund from km 0 to 40.8 km in Distt. Balrampur and Siddharthnagar (UP)

A detailed presentation was made by the Project Authorities. The participants were briefed that the scheme was conceived way back in 2003. Thereafter, it was re-casted in 2007, whereby 24.91 km long embankment, along with 14 no. regulators, was constructed in 2009, with NABARD funding. However, the project had to be left midway because of paucity of funds, and also because of problems in land acquisition. It was further informed that these impediments have now been addressed, and the scheme is now ready for the gap filling/balance works. The major activities in the current proposal include filling of gaps in the length 15.89 km of Bhojpur-Shahpur embankment, and construction of balance 5 no. regulators. The area to be benefitted is 8,578 ha, with estimated cost of Rs. 78.327 crore (2016 PL). The BC Ratio works out to 4.29.

The Chairman expressed concern over planning and implementation of such schemes which leave out gaps in between for various reasons, due to which the investment made on them lies unutilized for years together, till the time another scheme for gap-filling becomes operational. It was however clarified by the Project Authorities that primarily issues pertaining to land acquisition, which were not anticipated at the time of initializa

present situation. The Project Authorities further assured the Committee that now the farmers have come on board, and no further bottleneck is expected in taking up the balance works of the scheme.

The representatives from Department of Expenditure raised concerns regarding yield as well as the yield rate adopted by the Project Authorities. which were dealt with by the Committee along the lines mentioned for the above projects. Further, the representatives from Deptt. of Expenditure also pointed out that in this project, apart from the farm produce, significant value has been assigned to the by-products also. The Project Authorities clarified that the same is as per the certificate given by the Agriculture Department.

The Committee noted that the Scheme has been duly vetted by GFCC. The scheme does not require any statutory clearance, while the State Finance Concurrence is awaited.

After detailed discussion, the Advisory Committee accepted the proposal, subject to State Finance Concurrence. However, the acceptance of the proposal by the Advisory Committee of DoWR,RD&GR does not guarantee any eligibility towards release of fund under any existing scheme of DoWR,RD&GR.

At the end, the Chairman also asserted that the Heads of Water Resources Department from the State Governments concerned whose project is being put up before the Advisory Committee, namely Additional Chief Secretary/ Principal Secretary/ Secretary level Officers, themselves participate in the Advisory Committee proceedings. This would not only instill confidence in the Committee that the State Govt. is serious about the project, but would also help the Committee in seeking more clarity on the various aspects of the project, wherever required. It was desired that the Member Secretary may bring this to the knowledge of all concerned, that subsequently a project would be considered only if the concerned Departmental Head participates in the Advisory Committee Proceedings.

The meeting ended with a vote of thanks to the Chair.

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#### **Annexure**

## ADVISORY COMMITTEE FOR CONSIDERATION OF TECHNO-ECONOMIC VAIBILITY OF MAJOR & MEDIUM IRRIGATION, FLOOD CONTROL AND MULTIPURPOSE PROJECT PROPOSALS

147<sup>th</sup> MEETING HELD ON, DECEMBER 24<sup>TH</sup> 2020 THROUGH VC

#### **List of Participants**

1. Shri U.P. Singh, Secretary, DoWR, RD & GR

In Chair

Secretary

#### **Members of the Advisory Committee or their representatives / nominees:**

#### S/Shri

**CWC** 

**Special Invitees:** 

2.	R. K. Jain, Chairman, Central Water Commission	Member
3.	Dr. Y.P. Singh, Scientist-E (Representing Secretary MoEF&CC)	Member
4.	Saidul Haq. Scientist-D (representing Chairman, CGWB)	Member
5.	Arunlal K (Representing Advisor (WR&LR), NITI Aayog)	Member
6.	Jagmohan Gupta, JS&FA, DoWR, RD & GR	Member
7.	Heera Kataria, SO (Representing Ministry of Tribal Affairs)	Member
8.	Adlul Islam, Pr. Scientist, ICAR (Representing DG, ICAR)	Member
9.	J.S. Bhawa, Chief Engineer, CEA (Representing Chairman, CEA)	Member
10	Vishal Pal Singh (Representing Ministry of Agriculture & Cooperation)	Member
11	U.K. Shukla, Additional Chief Advisor(Cost), Deptt. of	
	Expenditure	
12	Ashok S. Goel, Chief Engineer, Project Appraisal Organisation,	Member

#### Deptt. of Water Resources, RD & GR

- 13 Smt Debashree Mukherjee, Additional Secretary, DoWR, RD &GR
- 14 Atul Jain, Commissioner (FM), DoWR, RD & GR

#### Deptt. of Expenditure, Min. of Finance

15 Amardeep Singh Chaudhary, Director (Cost)

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#### **Central Water Commission**

16	S.K. Haldar, Member (WP&P), N Delhi
17	B.K Karjee, Chief Engineer BBO, Guwahati
18	P.M Scott, Chief Engineer, BOBO, Shillong
19	Sudhir Kumar, Director M&A, BBO, Guwahati
20	Kiran Pramanik, Director PA(N), N Delhi
21	Rajiv Kumar, Director PA(C), N. Delhi
. 22	Nityanand Mukherjee ,Director, PA(S), N. Delhi
23	Piyush Kumar Director, FMP Dte, N Delhi
24	S.K. Das Director, HCD (E&NE) Dte., N. Delhi
25	Ankit Sahay, Deputy Director, CA (HWF) Dte., N. Delhi
26	M.K Gupta, Deputy Director, PA(N) Dte, N. Delhi.
27	Mohd. Amanulla, Deputy Director, CA (Irigation-1) Dte., N. Delhi Ankit Dudeja, Deputy Director, BBO, Guwahati.
28 29	Nitish Nitin Assistant Director, PA(N) Dte., N. Delhi
. 30	Dharmendra Chauhan, Assistant Director, FMP Dte., N.Delhi
31	R.P Singh, Assistant Director, PA (N) Dte., N.Delhi
-	Ganga Flood Control Commission
32	Abhay Kumar, Director, Lucknow
•	Government of Uttar Pradesh
33	Smt Priyanka Niranjan, Special Secretary, Irrigation & Water
34	Resource Dr. Mahendra Kumar Nigam, Chief Engineer
35	Alok Kumar Jain , Chief Engineer, Gandak, Irrigation & Water Resources

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36 K. B. Lal, Chief Engineer, Lucknow, Irrigation & Water

Resources

37	Shri Avanish Sahu, Superintending Engineer, Gandak Flood Circle, Gorakhpur
38	Rakesh Kumar Singh, Executive Engineer
•	Government of Himachal Pradesh
39	Narinder Saini, Enigneer-in-Chief, Projects, Jal Shakti Vibhag, Mandi
40	Joginder Chauhan, Superintending Engineer, Nahan
41	Mandeep Gupta, Executive Engineer
•	Government of KAAC Assam
42	Joybinon Longmaili, Addnl. Chief Engineer, Irrigation, KAAC,
43	Diphu Balindra Kumar Das, OSD, Irrigation, KAAC, Diphu
•	Government of Bodoland Territorial Council (BTC) Assam
44	Syed Nur Rahman, CHD
45	Prosenjit Paul, Assistant Executive Engineer
46	Minakshi Sangma, Assistant Executive Engineer
47	Tuniram Mili, Assistant Executive Engineer
•	Government of Karnataka
48	Anil Kumar, Secretary, WRD, Banguluru
49	Sri Raghavan, Chief Engineer, Upper Bhadra Project, Chitradurga.
50	S.M. Banakar, Technical Director, VJNL, Benguluru
51	F.H. Lamani, Superintending Engineer, Upper Bhadra Project Circle No.1, BR
52	K.M. Shivupurakash, Superintending Engineer, Upper Bhadra Project Circle No.2, BRF
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