



भारत सरकार
Government of India
जल शक्ति मंत्रालय
Ministry of Jal Shakti
(जल संसाधन, नदी विकास और गंगा संरक्षण विभाग)
(Department of WR, RD and GR)
केन-बेतवा लिंक परियोजना प्राधिकरण
Ken Betwa Link Project Authority



No:-KBLPA/Div./JHANSI/T-1(KBLPA) / 618-637

Date 19.06.2024

Sub:- Minutes of 8th Meeting of Technical Advisory Group of Ken-Betwa Link Project Authority

The 8th meeting of the Technical Advisory Group of Ken-Betwa Link Project Authority (TAG-KBLPA) was held on 11.06.2024 at Jhansi under the chairmanship of Shri D.P. Bhargava, Former Director (Technical), NHPC, Faridabad.

Minutes of the meeting, duly approved by the Chairman (TAG-KBLPA) is enclosed for kind information and further necessary action by all concerned.

(T. M. Tripathi)
ACEO (Canal) &
Member-Secretary

To: All the Members of TAG of KBLPA

1. Shri D.P. Bhargava, Former Director (Technical), NHPC, Faridabad.
2. Shri Y.K. Handa, Former Chief Engineer, CWC.
3. The Chief Engineer, Designs (NW&S), CWC, New Delhi.
4. Sh. V.K. Niranjana, Former HOD & E-in-C, I&WRD, UP.
5. Sh. G.P. Soni, Former Chief Engineer, WRD, MP.
6. The Director(CSMRS), New Delhi.
7. The Director, Hydrology-Central, CWC, New Delhi.
8. The Additional CEO (Head Works), KBLPA, Bhopal.
9. The Chief Engineer, BODHI, WRD, MP.
10. The Chief Engineer (Design & Planning), KBLPA, UP.

Copy of kind information to:-

1. The Member, D&R, CWC, New Delhi.
2. The Additional Chief Secretary, WRD, Govt. of MP, Bhopal
3. The Principal Secretary, I&WRD, Govt. of UP, Lucknow.



Special Invitee :-

1. The Chief Executive Officer, KBLPA, Bhopal.
2. The Engineer-in-Chief, WRD, Govt. of MP, Bhopal.
3. The Engineer-in-Chief (Projects), I&WRD, Govt. of UP, Lucknow.
4. The Chief Engineer (HQ), NWDA, New Delhi.
5. The ACEO(HQ/P), KBLPA, Lucknow.
6. The ACEO (Construction), KBLP, I&WRD, Jhansi.
7. The Director, Gates Design (NW&S), CWC, New Delhi.

**Minutes of 8th Meeting of Technical Advisory Group of Ken-Betwa Link Project Authority
held on 11.06.2024 at Jhansi**

The 8th meeting of Technical Advisory Group of Ken-Betwa Link Project Authority (TAG-KBLPA) was held on 11.02.2024 at Jhansi under the Chairmanship in respect of Shri D. P. Bhargava, Former Director (Technical), NHPC, Faridabad for discussion the following issues. The list of participants meeting members is endorsed at Annexure 8.1.

At the outset, Chairman welcomed all the participant. After brief introduction of the participants, item wise agenda was taken up for discussion.

The details of deliberation on agenda items and compliance on agenda items/ issues and points agreed upon are as under:

8.1 Compliances to the decisions taken in the 7th Meeting held on 17.02.2024.

Sl. No.	Decision taken in 7 th TAG meeting	Follow up action
1.	Restoration of Ken Main Canal system: The Revised DPR incorporating the recommendation of TAG was submitted by I&WRD, UP on 19.10.2023, As per decision taken in the 2nd meeting of SC-KBLPA, cost component of the DPR has to be appraised by CWC and accordingly, the State Govt. has submitted the DPR through e-PAMS to CWC on 12.12.2023 for appraisal. A PowerPoint presentation was made by I&WRD, UP on 06.01.2024 to CWC on the renovation & modernization works proposed under this DPR. The Status of cost appraisal of the DPR was discussed in the 5th meeting of SC-KBLPA held on 19.01.2024 wherein Secretary, DoWR, RD&GR, MoJS instructed CWC to complete the cost appraisal by 10.03.2024.	I&WRD, UP informed that approval for the DPR has been received.
2.	Strengthening and renovation of Bariyarpur PUW, Parichha Weir and Barwa Sagar Dam: It was desired by the Chairman TAG that next meeting may be convened at Jhansi after the clarification on various issues regarding Self-Operating Top Hinged Float Gates are received Visit to the Parichha weir can also be made at the time by TAG.	M/s Universal Hydro structure private limited has submitted the replies to the queries raised on proposed top Hinged Float Gates for Parichha weir & Bariyarpur Pickup weir and same were discussed by TAG.

8.2 Repair / Strengthening / Remodeling of Bariyarpur PUW, Parichha Weir, Barwa Sagar Dam along with appurtenant structures:

The TAG in its 6th meeting, considering the dilapidated condition of gates observed during the site visit, had suggested for its renovation / modification / replacement for Bariyarpur PUW and Parichha Weir.

In this regard, various alternatives have been explored and option of “Top Hinged Float Gates” has been considered. WRD, Govt. of MP has found the Top Hinged Float Gates to be

a cost-effective solution for increasing live storage capacities of existing reservoirs and adopted the mechanism in pilot irrigation projects.

M/s Universal Hydro Structures Private Limited, pioneer agency in Top Hinged Float Gates mechanism, on 30.11.2023 made a presentation at HQs, NWDA, New Delhi submitting proposal to replace the existing outdated falling shutter gates with the latest, state-of-the-art, unique, innovative and highly specialized Top Hinged Float Gates at Bariyarpur PUW and Parichha Weir.

Members of the TAG-KBLPA visited the Top Hinged Float Gate installed over Ramial River, Dhenkanal District, Odisha on 10.02.2024 and may discuss on the feasibility of installation for Bariyarpur and Parichha.

The matter was further deliberated at 7th meeting of TAG held on 17.02.2024 and it was decided that final decision on the proposal for installation of Self-Operating Top Hinged Float Gates shall be taken after the reply of the queries is received from the firm.

The reply of the queries was received from the firm and members of TAG deliberated on the various aspects of the proposal. The option of Top Hinged Gates at Bariyarpur PUW and Parichha Weir to replace the existing Falling Shutter Gates was discussed in detail in the TAG meeting. It was decided that although construction of Top Hinged Float Gates in big projects is a relatively new in MP & UP but such gates though smaller in size have been used elsewhere in India and abroad. Members suggested to visit the installed gates, during passage of flood. Since the concept of buoyancy has been used in hydromechanical structures since long, it would be prudent that an Expression of Interest (EOI) should be invited from experienced firms in the of HM Gates to meet the functional, structural and hydraulic requirements of the projects as well as to demonstrate its suitability and reliability at Bariyarpur PUW and Parichha Weir. This exercise would enable assessment of the availability of the vendors in India to fulfill the structural and functional requirements of the projects.

Barwa Sagar Dam

The UP I&WRD gave presentation on the existing status of the Barwa Sagar Dam and informed about the requirement of desilting in view of the considerable reduction in the capacity of the reservoir. The TAG after discussion suggested that:

1. There should be an arrangement for sustainable desilting of the lake on long term basis. I&WRD may propose the feasible suitable sites preferably near the downstream drains for constructing the sluice gates of adequate size with provisions of operating them regularly.
2. The existing outlet sizes are to be increased at the downside for attaining the silt removal function.
3. For removal of existing silt, possibility of its use in local area based on its suitability for agriculture work should be explored and plan to be made accordingly.
4. The silt can also be used for Ken Betwa Canal Works, up to a certain lead distance. Suitable provision in this regard to be made in the contract document of canal works.

5. The mechanism through which the soil may be made available for govt/ public/KBLPA works as per policy of concerned states be also explored and put up to KBLPA, so that the cost of silt removal is minimized.

8.3 Developing Pumping System, Pipe Distribution Network and Micro-Irrigation System in Cluster-5 of Enroute Command of Ken-Betwa Link Canal in Tehsil Kulpahar, District: - Mahoba Uttar Pradesh under Ken-Betwa Link Project.

A presentation on the agenda item was made by UP I&WRD and it was informed that the gross command area of Cluster-5 is 2055.72 Ha which is spread over 06 villages of the Kulpahar Tehsil in the Mahoba district. The estimated cost of work is Rs. 85.78 crore. The discussions were held on the parameters such as efficiency, construction schedule, filtration, pumping system, pipe material etc. After discussion, TAG suggested that:

- (i) System Efficiencies should be taken as below:
 - Convergence Efficiency = 99%
 - Field Pipe Efficiency = 99%
 - Field Application Efficiency = 85%
 - Total System Efficiency = 83.31%
- (ii) Proper silt sedimentation/filtration of raw water should be ensured before pumping to avoid entry of muddy water into pumps and clogging of sprinkler equipment.
- (iii) It was informed by UP I&WRD that the work could be completed in about one and half years. Since KBL canal work and Dam would require around five years to complete, work of command area development of cluster should be executed in sync with KB Link Canal work so that it does not remain unused due to non-availability of water . UP I&WRD informed that DPR would be completed now so that necessary approval could be taken. However the tendering would be taken up later as per the construction schedule and actual progress of work on the ground of the KB Link Canal and Dam.
- (iv) Motorized Butterfly valves would be difficult to maintain, therefore manually operated, instead of motorized, valves should be used.
- (v) The pumping hours should be adopted as 23 hours in place of 18 hours as there is provision for the Stand by Pump.
- (vi) Manufacturer of selected pipe material i.e. HDPE and PCCP – should also possess valid BIS licenses. The pipes to be used should have minimum no. of joints.

TAG suggested that I&WRD may complete the DPR preparation work. However tendering should not be taken up till substantial progress on works of KBL canal and Dam is achieved.

8.4 Discussion regarding EPC contract of Ken-Betwa Link Canal:

The tender for EPC contract of Ken-Betwa Link Canal is being prepared. The scope of work includes Planning, Design and Construction work of Ken-Betwa Link Canal of length about 218.6 Km and other ancillary works on EPC basis. After discussion on related issues, TAG suggested that:

- (i) There may be 02 packages for the work execution along the length of Canal:

- Package -01 for Canal from Upper Level Tunnel outlet (Beyond scope of EPC contract of Daudhan Dam) to near River Dhasan and
- Package-02 from the River Dhasan to Barwa Sagar dam.

- (ii) Typical Section for the Canal Structures/Canal to be checked by KBLPA Consultants as per the relevant Codes.
- (iii) Construction equipment deployment should be prescribed.
- (iv) Provision of laying Optic Fiber Cable to be made for the communication and to monitor the status of gate operation, water level at various sites, water flow to various outlets.

scope (v) The Gate opening indicator, Water Level Indicators, Flow meters and associated equipments are to be installed at the suitable locations.

T&C (vi) The Electricity connection for the operation should preferable be provided from the nearby Sub-Stations of Discom's.

T&C (vii) The Rock cutting and slopes should be made as steep as permissible as per site condition and rock quality using the suitable BIS code/ MP state code/Other guidelines of Govt. etc.

T&C (viii) The Geo-textiles/Modern construction material should be used as per site condition in the Canal Construction to decrease seepage/waterlogging and increases the slopes stability.

scope (ix) To the maximum possible extent, disposal of the surplus excavated material should be done adjacent to the canal banks in the acquired land space, left out after Canal Construction. Provision be stipulated in the bid document.

(x) The draft tender document should also be circulated to the Govt. of M.P. & U.P. for their comments/suggestions.

(xi) The Govt. of M.P. & U.P. should provide the final discharge requirement at the tapping points on the KB Link Canal along with any other requirements at an early date so that the same is incorporated in EPC Tender and the Tender Document can be finalized expeditiously.

T&C (xii) In portions where open channel is not suitable or due to land acquisition problems, Barrel/Pipe construction may be used considering suitable head losses.

(xiii) For Design & Engineering, specified qualifying criteria is to be met by the successful bidder after award of contract.

(xiv) Similarly for HM works, the main contractor can engage subcontractor, which can be decided after award of contract. However qualifying criteria to be specified in the bid.

The meeting ended with vote of thanks to Chair and to all the members present.

List of participants in 8th meeting of Technical Advisory Group for Ken-Betwa Link Project Authority (TAG-KBLPA) held at 11AM on 11.02.2024 at Jhansi

Technical Advisory Group

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|---|------------------|
| 1. Shri D. P. Bhargava, Former Director (Tech.), NHPC, Faridabad | Chairman |
| 2. Dr. Manish Gupta, Scientist – E, CSMRS, New Delhi | Member |
| 3. Shri Raj Kumar Mishra, ACEO (Head works), KBLPA, Bhopal | Member |
| 4. Shri Gyan Prakash Soni, Retd Chief Engineer, WRD, MP | Member |
| 5. Shri Karunesh Kumar, SE, I&WRD, UP
Representative Chief Engineer (Designs), I&WRD, UP | Member |
| 6. Shri T.M. Tripathi, ACEO(Canal), KBLPA | Member Secretary |

Special Invite

1. Shri Prashast Kumar Dixit, CEO, KBLPA.
2. Shri Devesh Shukla, ACEO (Construction), KBLCC, Jhansi
3. Shri Rahul Kumar Singh, Director, Gates Design (NW&S), CWC, New Delhi.

Other Participants

1. Shri Yuvraj Warke, CE, Dhasan Ken, M.P., WRD, Bhopal.
2. Shri Sandeep Kumar Khare, SE, , I&WRD, UP
3. Shri Dinesh Kumar Mishra, SE, KBLCC, Mahoba, I&WRD, UP
4. Shri Ashish Singh Kushwah, EE, KBLPA, Jhansi.
5. Shri Santosh Kumar, EE, Ken-Betwa Link Nahar Nirman Division-I Jhansi.
6. Shri Akhilesh Kumar, EE, KBLCCD-1, Mahoba, I&WRD, UP
7. Shri Jitendra Kumar, EE, KBLCCD-2, Banda, I&WRD, UP
8. Shri Akhilesh Kumar, EE, KBLCCD-1, Mahoba , I&WRD, UP
9. Smt. Seema Tripathi, EE, Baldeogarh Tikamgarh, WRD, MP
10. Shri N.C. Jain, EE, Chhatarpur, WRD, MP
11. Shri Rajnath Singh Yadav, EE, I&WRD, UP
12. Shri Nihit Kumar Singh, AE, KBLCCD-2, Banda, I&WRD, UP
13. Shri Manoj Kumar, AE, KBLCCD-1, Jhansi. UP
14. Shri Shubham Saxena, AE, KBLCCD-1, Jhansi, I&WRD, UP
15. Shri Satish Kumar Bundelkar, AE, KBLCCD-1, Mahoba, I&WRD, UP
16. Shri Vivek Kumar Tripathi, AE, KBLCCD-1, Mahoba, UP
17. Shri Sourabh Singh, AE, KBLCCC, Mahoba, I&WRD, UP
18. Shri Vinay Kumar Mishra, AE, KBLCC-I, Jhansi, I&WRD, UP
19. Shri Abhi Sahu, AE, KBLCCD-2, Mahoba, I&WRD, UP
20. Shri Ravi Shankar, AE, KBLCCD-1, Jhansi, I&WRD, UP
21. Shri Shivam Agrawal, AE, KBLCCD-2 Jhansi, I&WRD, UP
22. Shri Deepak Awasthi, AE, KBLCCD-1 Jhansi, I&WRD, UP
23. Shri Anshul Jain, AE, KBLPA, Jhansi, I&WRD, UP
24. Shri R.S. Sejvan, SDO, Tikamgarh, WRD, MP

25. Shri P.L. Kulhar, SDO.Baldeogarh, WRD, MP
26. Smt. Jyoti Sharma, AE, Baldeogarh, WRD, MP
27. Shri Santosh Kumar Rana, Sub- Engineer, Tikamgarh, WRD, MP
28. Shri Neetesh Kumar, JE, KBLCCD-I, I&WRD, UP
29. Shri Sanjeev Verma, JE, KBLCCD-I,Jhansi, I&WRD, UP
30. Shri Shrikant Verma, JE, KBLCCD-I, Jhansi, I&WRD, UP
31. Shri Bhoor Singh Meena, JE, KBLPA, Jhansi
32. Shri Ram Singh Meena, JE, KBLPA, Jhansi
33. Shri Thansingh, JE, KBLCCD-I, Jhansi
34. Shri Bimlesh Goswami, D/man. KBLPA, Jhansi