

PREFACE

The planning of southern water grid i.e Mahanadi - Godavari-Krishna-Pennar-Cauvery-Vaigai-Gundar link system of peninsular component under National Perspective Plan (NPP) comprising of nine link proposals is based on the surpluses in Mahanadi, Godavari and Himalayan river basins. Keeping in view the diminished surpluses in Mahanadi & Godavari as per the latest water balance studies of NWDA and in anticipation of finalization of supplementation from Himalayan rivers to the peninsular component, the nine link system will now be taken up in two phases.

Phase I: Identifying surplus waters in Godavari basin and transferring these waters upto Cauvery through Godavari - Krishna - Pennar - Palar - Cauvery link system; The draft DPR of Godavari (Inchampalli/ Janampet) - Cauvery (Grand Anicut) link project was circulated to concerned states in March 2019 under phase-I.

Phase II: On firming up surplus water in Mahanadi at Barmul and techno economic viability of linking Brahmaputra - Ganga - Subernarekha - Mahanadi - Godavari rivers, thus enriching the Phase I; The Cauvery (Kattalai) - Vaigai – Gundar (CVG) link project forms part of Phase II of the nine-link system. The C-V-G link project envisages to divert 2252 MCM of water from Kattalai barrage on Cauvery in partial exchange out of 3855 Mm³ of surplus waters received in Cauvery basin through upper components of the link system.

The existing Kattalai barrage is located across Cauvery at about 138 km downstream of Mettur dam on the river Cauvery in Karur district. The gross capacity of the pond is about 29.40 Mm³ at full pond level (FPL) of 101.200 m. The C-V-G link canal will take off from the right side of Kattalai barrage with FSL of 100.75 m and traverses through the districts of Karur, Tiruchirappalli, Pudukkottai, Sivaganga, and Virudhunagar in Tamil Nadu State. The diversion of water is proposed mainly during the monsoon months. The link canal will be operated from 5th June to 30th January for 240 days. The designed discharge at head and tail end of the link canal are 180.30 cumec and 17.00 cumec respectively. The 256.82 km long gravity canal from Kattalai to Gundar river includes four tunnels of total length 15.54 km. The canal will benefit a command area of 4.48 lakh ha at 100% intensity providing 1931 MCM of water, besides quenching its domestic & industrial water needs of 79 MCM & 139 MCM respectively. The command

area is spread in seven districts viz. Ramanathapuram & Thoothukudi districts in addition to the above five districts through which the link traverses. Canal top/bank solar power generation is also contemplated with an installed capacity of 1130 MW in the DPR. The capital cost of the link project at 2019-20 price level will be Rs 8,277 crore. The benefits from the link project includes revenue from agriculture produce, irrigation service fee, domestic and industrial water supply, pisciculture and plantations on canal banks. The C-V-G link project will yield a B.C. ratio of 5.25 and IRR of 38.18%. The B-C ratio and IRR are arrived at considering the link project in isolation. Since the availability of water for this link diversion entirely depends upon the upper links and taking into account their apportioned costs, the benefit cost ratio may reduce to some extent.


The Detailed Project Report contains Volume-I- Report, Volume-II-Annexures, Volume-III- Appendices & Volume-IV-Drawings.

In the essence of timely preparation of this DPR, I would like to acknowledge tremendous support provided by the NWDA officials.

I would like to express my sincere gratefulness and heartfelt thanks to Shri Bhopal Singh, Director General, NWDA and Shri M.K. Srinivas (former DG, NWDA) for their unstinted support and valuable guidance from time to time which greatly helped in timely completion of the DPR. My deep sense of appreciation is due to Shri R K Jain, CE(HQ), Shri Afroz Alam, SE-I, NWDA for critical examination of the DPR and other supporting staff at HQs. for their immense support.

I would also like to place on record my sincere appreciation to Shri R.K. Kharbanda, SE, Shri N.S.R. Krishna Reddy, Dy. Dir, Shri K.S. Naidu, AE, Shri R Chandrasekaran, EE, Shri S James, AE, and Shri T Mahendran, JE of Inv. Division, Chennai and the team for their relentless efforts in fruitfully accomplishing the preparation of DPR within the stipulated time. It is expected that the link project shall see the day of the light very soon transforming the envisioned water short areas with all-round development.

August, 2020
Hyderabad


(Dr. R. N. Sankhua)
Chief Engineer (South)