



KARNATAKA URBAN WATER SUPPLY & DRAINAGE BOARD

OFFICE OF THE ASSISTANT EXECUTIVE ENGINEER,

SUB-DIVISION, KAJUBHAG, KARWAR-581301

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NO.AEE/KWB/KWR/AE/2020-21/812

Date: 31-08-2020

To,

✓ The Additional Principal Chief Conservator of Forest
& Nodal Officer (FCA)
'Aranya Bhavan' 18th Cross
Malleshwaram, Bangalore-03

Sir,

Sub:- Clarification to the Regional Empowered Committee for diversion of forest land for Construction of vented barrage of capacity 0.383 TMC across Gangavali river at Honnalli and allied works for Providing Water supply to Project Seabird, Karwar-Ankola towns, enroute villages & Grasim Industries Binaga -Reg

Ref:-

1. Regional Empowered committee meeting through video conference held on 24/04/2020
2. The Deputy Inspector general of forests(Central), Ministry of Environment, Forests & Climate change, Regional office(Southern zone), Kendriya Sadan, IV floor, E & F wings, Koramangala, Bengaluru office letter no.F.No.4-KRC1234/2020-BAN/27 dated:04/05/2020

Adverting to the above, the stage-1 forest clearance proposal for diversion of 34.98 ha of forest land Karwar & Honnavar divisions of Uttara Kannada district for "Construction of vented barrage of capacity 0.383 TMC across Gangavali river at Honnalli and allied works for Providing Water supply to Project Seabird, Karwar-Ankola towns, enroute villages & Grasim Industries Binaga" has been submitted to Central Government from State Government for Stage-1 approval. The subject has been placed before 43rd Regional Empowered Committee of the MoEF&CC, Govt of India held on 24/04/2020. The committee vide letter cited under ref (2) has directed to furnish compliances for the following clarifications for further processing of the proposal. The compliance to the clarification are as follows:-

Sl no	Clarifications	Compliances
1	Alternatives explored with technologies like	Explanation for comparison with alternative technologies such as, Desalination process & atmospheric moisture extraction method has been explored. The details are as follows,

	atmospheric moisture extraction and/or desalination etc.,	<p>1. Desalination process</p> <ul style="list-style-type: none"> The cost estimate for desalination process is made based on recently constructed similar plants in Tamilnadu and the capital estimated cost of 100 MLD plant is Rs. 875-900Cr (Capex-capital expenditure) and the average operational cost is Rs.90-100Cr(Operational expenditure) per year. Accordingly, for 78.68 MLD Capex will be Rs.750-800 Cr & annual Opex will be Rs.70-80 Cr, about Rs.4000 Cr is required for 50 years O & M. Approximate extent of land required to setup 78.68 MLD desalination plant is about 35 to 50 acres for which clearance from coastal regulatory zone(CRZ) is required. Also additional forest land is required as there is no revenue land in the coastal areas. Also huge amount of energy is required for desalination process & it is very costlier when compared with this proposal. The process is not feasible as far as availability of funds is concerned & also technology providers for this process are very meagre. Also adoption of this process is very difficult. <p>2. Atmospheric moisture extraction(AME)</p> <ul style="list-style-type: none"> The process is site-specific & weather and climate dependent. AME units are dependent on Humidity (70% or more Humidity is required) & Temperature (Between 25DegC- 30 DegC). The efficiency of atmospheric moisture extraction process is highly weather and climate dependent, with the smallest estimated power requirement of 0.23 kW/L. Less favorable locations have much higher energy demands for the operation of an atmospheric moisture extracting device. Largest capacity of AMEs – from 25 Lpd to 5,000 liters per day, whereas the Proposed demand is 7,80,00,000 liters per day. Therefore adoption of this technology is not possible. For AME setup, the energy requirement of ‘atmospheric moisture extraction by a direct air cooling process’ is significantly higher than of desalination by reverse osmosis. The process is not feasible as far as availability of funds is concerned & also technology providers for this process are very meagre.
2	Study on the effect of the project on biodiversity, including movement of fishes in upstream &	<ul style="list-style-type: none"> The study on the effect of the said project on Biodiversity, including movement of fishes in upstream and downstream was entrusted to Fisherman’s Guidance Bureau, Department of Studies in Marine Biology, Karnataka University & Department of Botany, Government Arts & Science Collage affiliated to Karnataka University, Dharwad. Both the reports


	downstream as the Gangavali valley is a bio diversity rich area	are appended for information. And attempts will be made to take up the mitigation measures as suggested by the expert during their study.
3	Basic ecological flow of water has to be quantified & study on changes in salinity in the downstream areas due to the construction of barrage may be carried out	<ul style="list-style-type: none"> The work of construction of 0.383 TMC capacity barrage across river Gangavali is proposed to overcome storage deficit for 120 days in peak summer. As per the demand assessment, 78.68MLD of water is required for the ultimate year 2068. Therefore for 120 days, 10858 ML (incl 15% losses) which is about 0.383 TMC. During winter & rainy season, the gates will be kept open. Therefore basic ecological flow will be maintained. During peak summer (120 days), the gates shall be operated in such a way that there will be no effect on fresh water ecosystems, thus basic ecological flow will be maintained with no harmful effects to aquatic life. Based on the reports obtained, there will be no change in salinity of water in the downstream areas due to construction of barrage.

With all the above aspects, it is to conclude that the proposal of construction of 0.383 TMC capacity barrage across river Gangavali is most suitable & economical when compared with the explored alternatives. In this regard, the clarifications sought by Regional Empowered Committee is herewith submitted by requesting REC to consider the proposal of diversion of 34.98 ha of forest land in Karwar & Honnavar divisions of Uttara Kannada district for drinking Water supply to Project Seabird, Karwar-Ankola towns, enroute villages & Grasim Industries Binaga. The above clarification is submitted for kind perusal & for further needful action.

Encl: Study Report:

- i) Fisheries Resources along Upstream & Downstream of River Gangavali
- ii) Plant diversity study report

Your's faithfully,


Assistant Executive Engineer
KUWS&DB, Sub-Division,
Karwar