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KLP/102017/583/Kalpasar

Date: 25/08/2022

To,
The Secretary,
Ministry of Environment, Forest and Climate Change,
Indira Paryavaran Bhawan,
Room No. 503, 5th Floor,
Vayu Wing, Jor Bagh Road,
Aliganj, New Delhi - 110003

25 AUG 2022

Subject: Development of Kalpasar Project (building a 60 km dyke) across Gulf of Khambhat by M/s. Narmada, Water Resources, Water Supply and Kalpasar Department, Government of Gujarat– Request for ToR Approval – reg.

Reference: 1. Our letter vide KLP/102017/583/Kalpasar dated April 28, 2022.
2. **Item No.3.3** - 304th meeting of infra-1 held on July 21, 2022. Proposal No. IA/GJ/NCP/280454/2022, File No. 10/33/2022-IA.III

Dear Madam,

Greetings from Kalpasar Department, Govt of Gujarat

"As you are aware, the concept of the Gulf of Khambhat Development Project, popularly known as Kalpasar Project, to create freshwater reservoir by constructing a dyke, was seeded by primordial ideas and suggestions by numerous renowned personalities. Netherlands Engineering Consultants (NEDECO), a Dutch company. Shri Bhogilal Shah, Member of Rajya Sabha (1952-56), mooted the idea of constructing a dyke across the Gulf for creating a big freshwater pond to be named as "Gandhisar". Shri Shah's idea was carried forward by Dr. Viththubhai Patel, an eminent earthen dyke engineer of international repute and progressive farmer of Bhavnagar, who provided an engineering format to the idea of Shri Bhogilal Shah in the year 1964. These incipient ideas and suggestions appear to have seeded the concept of the Gulf of Khambhat Development Project.

The project proposal, with respect to its form and features, has evolved through interplay of ideas and concepts which have been concretized through the Reconnaissance Study (1988), Pre-feasibility Study (1996-98), Six Specific Studies (1999) and many other studies/investigations/expert consultations. Taking cognizance of these, the Government of Gujarat, on recommendation of the Expert Advisory Group of Gujarat (EAG), finally approved vide office order dated 22nd January 2003 to carry out feasibility studies. Since, then many studies have been conducted by Government of Gujarat (GoG) right from conceptualization to detailed project report preparation for Kalpasar Project."

The project in full form including dyke, freshwater reservoir creation, irrigation system etc., was submitted and project was appraised by EAC, river valley in its 41st meeting held on September 24-25, 2010 and EAC opined as follows

"A complex project primarily planned for irrigation but to a large extent for drinking water and industrial use need to be examined from each angle such as the command area situation for the irrigation project and other environmental issues related to the reservoir. ***It would be desirable to break up the project into individual components objective-wise*** and provide a PFR report".

Post EAC scrutiny, several studies were conducted, these are shown in following table:

| S.No | Feasibility Study | Organization | Year |
|------|---|---|-----------|
| 1. | Feasibility study | M/s. Royal Haskoning | 1998 |
| 2. | Hydrodynamic and Sediment Model Studies and Related Measurement for Gulf of Khambhat Development | NIOT | 2018 |
| 3. | Techno Economic Feasibility report | Kalpasar | 2011 |
| 4. | Studies on sea-level rise along the Gujarat coast and changes in regional climate over Gujarat | NIO Goa | 2011 |
| 5. | A study of agronomical constraints in agriculture in the command area of semi-arid and arid regions of Saurashtra | Dr. D. G. Faldu, | 2011 |
| 6. | Irrigation Facilities | Shri. P. D. Trivedi National consultant | 2011 |
| 7. | Present Status of Salt Pans and Assessment of Social, Economic and Environmental Impact of the Kalpasar Reservoir Project | CSIR-CSMCRI | 2011 |
| 8. | Concept and Structure Plan and Preparation of Base Map of the Kalpasar Project Area | CEPT | 2019 |
| 9. | Geo physical survey for revised dyke corridor | NIOT | 2010&2014 |
| 10. | Traffic Assessment Study for GoK Development Project | L&T Ramboll & GERI | 2013 |
| 11. | Vetting of Water Availability Studies for Gulf of Khambhat Development Project | NIH | 2014 |
| 12. | Primary and alternate locations of Flood Regulator 2 DT | Kalpasar | 2014 |
| 13. | Primary Dyke cross sections | Kalpasar | 2015 |
| 14. | Impact of Kalpasar Project on the existing and Proposed Ports | NIO Goa | 2016 |
| 15. | Estimation of Probable Maximum Flood (PMF), Design flood including determining spillway capacities | Department of Hydrology, IIT Roorkee | 2018 |
| 16. | Design of spillway report | Kalpasar | 2018 |
| 17. | Study of Tsunami waves impact on structures and Tsunami Inundation Modeling for the Kalpasar Project | CSIR-NGRI | 2016 |
| 18. | Impact of Storm surges, Wind waves and Seiches | IIT Delhi | 2017 |
| 19. | Hydrodynamic and Sediment model studies and related measurements | NIOT | 2018 |

| S.No | Feasibility Study | Organization | Year |
|------|--|-------------------------|----------|
| 20 | Impact on mangroves consequential to creation of Kalpasar reservoir and mitigation strategy | CSIR-CSMCRI | 2016 |
| 21 | Synopsis of the environmental and socio-economic aspects of the various studies related to Kalpasar project | Gujarat Ecology Society | 2018 |
| 22 | Reclaimable land plan GIS data base | CEPT | 2019 |
| 23 | Geotechnical Investigations along the Dyke Alignment | M/s COMACOE | 2021 |
| 24 | GAP Analysis and Preparation of Design Basis Report for Kalpasar Project | ARUP | 2022 |
| 25 | Seismic Hazard Assessment for Kalpasar Project | NGRI | 2022 |
| 26 | Studies related to reservoir seiches, Impact of Dyke on regional scale, design water levels and waves. | IIT Madras (OED) | On Going |
| 27 | Geotechnical Aspects, Design of Dyke and Flood Regulator for Kalpasar Project | IIT Madras (CED) | On Going |
| 28 | Numerical and Physical Model Studies for Dyke and Flood Regulator. | CWPRS | On Going |
| 29 | Assessment of Sea Level Rise due to Climate Change, Inundation in Gulf- Post Construction of Dyke and Updating studies on Impact of Tsunami. | INCOIS, IITM Pune | On Going |
| 30 | Studies Related to Traffic Assessment, Design of road, Rail and Bridge Components for Kalpasar Project | L&T | On Going |
| 31 | Dyke Closure Studies and Design of Gates for Flood Regulator | Royal Haskoning | On Going |
| 32 | Security Studies for Kalpasar Project | RRU | On Going |

Considering complexity and magnitude of the project, Govt of Gujrat has requested Ministry of Earth Sciences to take up the task of preparation of Detailed Project Report and National Centre for Coastal Research (NCCR) was identified to take this task during March 2021. NCCR has prepared Prefeasibility Report (PFR) and NEERI has been engaged for EIA studies of the project.

Following suggestions by EAC-river valley, project is divided into various components and following which are **primarily attracting marine side construction** has been taken into one segment and submitted the ToR proposal to INFRA 1 vide reference no.1:

1. Construction of 60.13 km of dyke i.e., 26.7km length will be in the Gulf (sea portion) and 13.6 km length towards east i.e., Bharuch district and 19.83 km towards west i.e., Bhavnagar district
2. Flood regulator to discharge flood water
3. Fresh water reservoir will be created in upstream of dyke with capacity of 7800 million cubic meters.
4. A 150m wide road/rail corridor i.e., 16 lane roadways along with 4-lane permanent way for rail transport is proposed to be built over the Dyke

MoEF&CC has considered the subject project (Item no. 3.3 of the agenda) in the 304th meeting scheduled held on 21st July 2022. During the deliberation of the meeting, EAC directed that the document submitted by the PP were received only two days before the EAC meeting and therefore members have sought some time to study the entire set of documents due to multiple components involved in the project. In view of this, the EAC deferred the proposal and informed to submit all relevant studies undertaken for the project. The following documents were submitted

1. Prefeasibility Report
2. Brief Project Summary
3. Project KML File
4. Form 1 application
5. Draft ToR for EIA study

In order to address the EAC observations, relevant studies undertaken will be submitted for perusal of the committee and several studies are also underway.

It is therefore, requested to consider our application in next upcoming meeting and grant us ToR towards obtaining EC at the earliest.

Thanking you,



(K.B. Rabadia)

Secretary
Kalpasar Department
Gandhinagar

Copy respectfully forwarded to:

- The Secretary, Ministry of Earth Sciences, Prithvi Bhawan, Opposite India Habitat Centre, Lodhi Road, New Delhi-110003.
- The Chief Secretary, Government of Gujarat, 1st Block, 5th Floor, New Sachivalay, Gandhinagar-382010.