

**MINUTES OF THE 35TH GOA STATE ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY (GOA-SEIAA) MEETING HELD ON 10TH
NOVEMBER 2016 AT 03.30 P.M. IN THE CONFERENCE ROOM OF
THE GOA STATE POLLUTION CONTROL BOARD.**

The thirty-fifth meeting of the Goa-SEIAA (*hereinafter referred as 'Authority'*) was held on 10th November 2016 at 03.30 p.m. in the conference room of the Chairman, Goa-PCB. The list of members present during the meeting is annexed (*refer Annexure – 1*).

At the outset, Member Secretary welcomed the Members and informed about the purpose of convening the meeting in response to the 'Order' pronounced by the National Green Tribunal (NGT), Pune bench on 27th October 2016 in a matter - Goa Foundation *V/s* GSIDC & Ors., (*i.e. Execution Application no. 48/2016 in Application no. 85/15*). Subsequently, the said matter related to “**proposed construction of 3rd new bridge across river Mandovi**” was taken up for discussion / deliberation and suitable decision as per the agenda item (refer Annexure – 2).

The Authority perused the following communications which were brought on record

1. The letter enclosing therein Form-1 as per Annexure-IV of the CRZ Notification, 2011 along with relevant enclosures (*i.e. EIA & NIO report*) received from **M/s Goa State Infrastructure Development Corporation (GSIDC)** vide ref. no. GSIDC/Engg./Works/1000/4717 dated 3rd November 2016.
2. The letter, with enclosures, received from **Member Secretary, Goa Coastal Zone Management Authority (GCZMA)** vide no. GCZMA/APPLN No. 85/2015/WZ/NGT/05/1646 dated 9th November 2016.
3. The letter received from **M/s Goa Foundation** vide no. Nil dated 4th November 2016.
4. Observations forwarded by the **Goa State Expert Appraisal Committee (Goa-SEAC – hereinafter referred as 'Committee')** considered during its 79th meeting held on 8th November 2016.
5. **File bearing no. GCZMA/N/13-14/95** titled 'Construction of Bridge across River Mandovi at Panaji' along with all relevant Notings (*1/N to 4/N*) and Correspondences (*including e-mail communications dated 2nd November 2016*).
6. **NoC / Recommendations of the GCZMA** issued to the Project Proponent (PP) vide letter no. GCZMA/N/13-14/95/1143 dated 8th August 2016.

7. **Environment Impact Assessment (EIA) Report** prepared by M/s Fine Envirotech Engineers, Mumbai prepared during August 2015 and Revised report of April 2016.
8. **Study on influence of new bridge piers on bed morphology and rive banks of Mandovi River** – report prepared by the National Institute of Oceanography (NIO) during October 2015.

Thereafter, Authority requested representative of **M/s Fine Envirotech Engineers, Mumbai** –environmental consultant to make the project-specific presentation on behalf of the Project Proponent (PP). Later, **M/s Larson & Tubro (L&T)** – project contractor also made the technical presentation highlighting technological interventions and its advantages adopted during the construction phase of the new bridge vis-a-vis methodologies adopted in constructing existing two bridges across Mandovi river.

After presentation, the Authority sought clarification / submission, as applicable on the following points –

- a. The initial plan of the proposed bridge with survey numbers and modified plan of the bridge with survey numbers. The CRZ Authority has allowed cutting of 247 mangroves along the path from Mercec circle to Kadamba junction. The modified plan as it stands considerably reduces the number of mangrove cutting. Proportionate area location will be done elsewhere to compensate for the cutting on completion of the project. However, actual mangroves cut would be known only after all the piers are constructed. As such required area for planting fresh mangroves will be identified only thereafter. It is also to be noted that the current mangrove area was earlier under cultivation and it has survey number allocated since long. The mangrove growth is a subsequent occurrence after agricultural activities were abandoned. It is to be noted here that the mangrove area which comes under saline water table is not allocated any survey numbers.
- b. Standard Terms of References (ToRs') for preparation of EIA report for the particular type of project activity – i.e. construction of bridge were discussed. As per the provisions of the Coastal Regulation Zone (CRZ) Notification, 2011, the PP has complied with the submission of rapid EIA report and was perused by the Authority.
- c. The main bridge column is supported by pile foundation with free flowing spaces in between and pier-cap on the top which obstructs very less part of the flow during high and low tides. The sharp corners of the pile foundation cap will be covered on all corners by round pipes (*i.e. fenders*) to avoid sharp-edge disturbances in the flow of river. This will also serve the purpose of reducing impact of the plying vessels / barges, etc.
- d. The bridge with built-up area of 69,188.90 sq.mts. does not come under the purview of the EIA Notification, 2006 and does not require environmental clearance (EC).

Subsequently, the Authority also visited the project site on the same day and made the following observations –

- i. The land tract starting from Merces circle upto Kadamba stand comes under the modified design for the bridge portion coming from Ponda end which will result in minimal mangrove removal as against the initial design. Further, mangrove cutting will be limited only in areas where only pile foundation is proposed, rest of the mangrove tract/zone will remain undisturbed causing less damage. It will also reduce the mangrove felling as envisaged during the initial phase of construction design.
- ii. On perusal of the study (*page nos. 51- 52*) entitled **“Study on influence of new bridge piers on bed morphology and river banks of Mandovi river”** conducted by the National Institute of Oceanography (NIO) during October 2015, it was noted that new bridge piers are being collocated and aligned with old bridge piers. Number of piers are being reduced considerably (*i.e. only 4 nos. of piers for the third bridge compared to 12 nos. each for the two earlier bridges*) thereby the effect of the new bridge piers is minimal on the local hydrodynamics and morphology. Further, the study has also concluded that along the bed morphology and river banks of Mandovi the changes in flow speed are insignificant and therefore, it can be observed that the presence of new bridge piers do not have significant influence on the hydrodynamics in the study region. In the vicinity of piers the flow velocities are observed to be reduced that will help in deposition of sediments.
- iii. The PP has already obtained relevant permissions from (a) Department of Forests, (b) Goa State Pollution Control Board (*GSPCB*), (c) Goa Coastal Zone Management Authority (*GCZMA*), (d) Town & Country Planning (*TCP*) Department, (e) Water Resources Department (*WRD*), (f) Captain of Ports (*CoP*) and (g) Directorate of Tourism.

In addition, the Authority also noted the recommendations of the Committee, *as referred in (4) above*, and decided to include the same as ‘Specific conditions’ for mandatory compliance by the PP.

- (i) Periodic and regular examinations of exposed concrete structures for fouling encrustations and to take the necessary antifouling measures to avoid weakening of the pile structures.
- (ii) Quarterly pelagic and benthic sampling be done at strategic locations in consultations with the Benthic Biology division of NIO, to assess diversity and density of Planktons and Benthic biota respectively; until completion of the project and for a period of at least 1 year thereafter. In addition, also revise the listing of marine biota provided in Annexure –III A-F (*page No. 75-77*) in EIA report.

Later, *on perusal of the communication referred at (6) above*, the Authority has decided to include the following as ‘Specific conditions’ for suitable compliance by the PP.

- a. The PP shall carry out mangrove plantation in consultation with the Goa State Biodiversity Board (GSBB) and the Department of Forests.
- b. The temporary cofferdams erected by the PP should not hamper the flow of water in any way and the same should be removed immediately after 30 days upon completion of the proposed work.
- c. The gangway constructed for free movement of the manpower engaged in the construction work and platforms constructed in the river for construction work has to be removed within 3 months of the completion of the work.
- d. Monitoring of Ambient Air Quality, Noise-level monitoring, ground and surface-water monitoring throughout the construction phase of the said project shall be carried out and results shall be prominently displayed at the site. The location of Ambient Air Quality Monitoring (AAQM) stations and its frequency shall be decided in consultation with the Goa State Pollution Control Board (GSPCB).
- e. Disposal of debris including the excavated material during construction phase shall not create adverse effect on neighbouring communities and shall be disposed-off within the project site with the approval of the Competent Authority concerned, after taking the necessary precaution for general safety and health aspects.
- f. Use of diesel generator sets during construction phase should be enclosed type and confirm to Environment (*Protection*) Act / Rules for air and noise emission standards.
- g. Structural design aspects in accordance with the seismic zone shall be strictly adhered to National and International standards / codes shall be practiced for structural safety of the bridge.
- h. The construction materials and debris shall be properly stored and handled to avoid negative impacts such as air pollution and public nuisance by blocking the roads / public access. Appropriate barricading shall be done and signboards shall be put at such sites.
- i. Disaster Management Plan (DMP) for preparedness to meet with all types of likelihood disasters / unforeseen conditions shall be prepared before commencing further construction activity. This aspect was discussed during the technical presentation made during the meeting and was found satisfactory.
- j. Traffic congestion on roads approaching to the proposed project site and nearby highways (main roads) must be avoided by taking appropriate / suitable measures including signages, online / automatic displays, etc.,
- k. Post monitoring on bed morphology has to be carried out by the PP for a period of atleast one year after completion of the project activity.

Based on the above observations and as per the provision referred in the Notification no. S.O. 3085 (E) (*i.e. amendment in CRZ Notification, 2011 with specific reference to a paragraph 4.2, in sub-paragraph (ii)*) dated 28th November 2014 vis-a-vis **NGT Order** dated 27th October 2016, the Authority has considered the application referred in (1) and (2) above and has decided to grant CRZ clearance in terms of clause 4.2(ii) of the CRZ Notification, 2011 for construction of proposed 3rd Mandovi bridge subject to compliance of – (a) appraisal of mangrove assessment from forest Department. While doing so, the Authority has also realized that taking into consideration the great convenience for traffic, it will introduce for bypassing traffic on the National Highway (NH 66). Further, PP has responded to points raised by the Goa Foundation point-wise, copy of which was presented during the project-specific presentation and were felt to be satisfactorily complied with.

Meeting concluded with a vote of thanks to the chair.

Sd./-

Mr. Vivekanand L. Sawkar
Member, Goa-SEIAA

Sd./-

Mr. Srinet N. Kothwale
Member Secretary, Goa-SEIAA

Sd./-

Dr. Pramod V. Pathak
Chairman, Goa-SEIAA

Place: Patto, Panaji

Date: November, 2016.

ANNEXURE-I

List of Members who attended the 35th Goa-SEIAA meeting held on 10th November 2016

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| 1. Dr. Pramod P. Pathak | Chairman, Goa-SEIAA |
| 2. Mr. Vivekanand L. Sawkar | Member, Goa-SEIAA |
| 3. Mr. Srinet N. Kothwale | Member Secretary, Goa-SEIAA |