

**Minutes of the 145<sup>th</sup> meeting of Expert Appraisal Committee for Projects related to Infrastructure Development, Coastal Regulation Zone, Building/Construction and Miscellaneous projects held on 9<sup>th</sup> February, 2015**

**1. Opening Remarks of the Chairman.**

The Chairman welcomed the members to the 145<sup>th</sup> meeting of the Expert Appraisal Committee.

**2. Confirmation of the Minutes of the 144<sup>th</sup> Meeting of the EAC held on 28<sup>th</sup> – 30<sup>th</sup> January 2015 at New Delhi.**

The EAC confirmed the minutes of the 144<sup>th</sup> of the EAC held on 28<sup>th</sup>- 30<sup>th</sup> January, 20145 at New Delhi.

**3. Consideration of Proposals**

**3.1. Development of Cryogenic LPG import, Storage and Distribution Facility along with allied infrastructure at J.L No. 140 &138,Haldia Dock Complex, Mauza Jagat Chak, Village Durgachak, Dist: Purba Medinipur, West Bengal by M/s Aegis Logistics Ltd. - ToR - [F.No.11-44/2014-IA-III] – Correction in minutes**

3.1.1 The project was considered by the EAC in its meeting held from 6<sup>th</sup> – 7<sup>th</sup> January, 2015. The PP submitted that the word ‘LPG’ was mentioned as ‘LNG’ as typographical error. The ‘LNG’ to be replaced by ‘LPG’ and following conditions relating to LNG be removed.

- vii. Details of storage and re-gasification, distribution network etc and vulnerability of human habitation vis-a-vis LNG associated risks be submitted.
- viii. Type of LNG carriers proposed taking into account the future growth in vessel sizes beyond the present day market trend and the handling aspects of such vessels from environmental considerations be submitted.

**3.1.2 The EAC recommended for the above corrections.**

**3.2 Development of an aerial passenger ropeway in Hemkund, Uttarakhand by M/s Uttarakhand Infrastructure Projects Company Ltd. [F.No.10–56/2013-IA.III] - Environmental Clearance - Further consideration**

3.2.1 The proposal was considered by the EAC in its meeting held in October, 2014. The EAC noted that the alignment falls within buffer zone of Nanda Devi Biosphere Reserve and is close to the Valley of Flowers. Uttarakhand State Wildlife Board has granted its approval to the project and the forest clearance is yet to be received. The EAC after deliberation sought the following information for further discussion:

- (i) PP shall consider the CSR on Sanitation and cleanliness measures in and around the project and nearby villages.
- (ii) Submit the details of trees to be cut for the project.

3.2.2. PP made a presentation and informed that:

- i. CSR a statutory requirement under Companies Act, 2013, where Companies having a net worth of Rs.500 crore and more or annual turnover of Rs.1000 crore and more, or a net profit of Rs.5 crore and more shall earmarked at least 2 % of their average net profit in the previous three years on CSR activities. Under CSR, following are proposed:
  - a. Motivational drives on sanitation and cleanliness in Govindghat, Ghangaria, Hemkund and nearby villages.
  - b. Support Eco-Development Committees both financially and technically.
  - c. Training to pony operators on animal health check-ups, nutrition and disposal of animal waste.
- ii. Phase-I: (Ghangaria to Hemkund) requires diversion of 2.305 ha of forest land which includes 2 ha of RoW considered along 2000m of corridor length with 10m width. About 89 trees are falling within the ropeway corridor and stations which includes majorly Bhojpatra variety of trees.
- iii. Phase-II: (Govindghat to Ghangaria) requires diversion of 11.91 ha of forest land which includes 11 ha of RoW considered along 11,000 m corridor length with 10m width. About 575 trees are falling within the ropeway corridor and stations.
- iv. The trees which would actually be required to be cut would be those which would fall at the terminal stations and at tower locations only. The trees falling in the corridor would not be required to be cut as the rope would be running at a height of about 15-20m.
- v. Compensatory Afforestation plan shall be developed in the ration of 1:2 and accordingly civil soyam land shall be identified and earmarked for the project to be transferred to Forest Department for Afforestation purposes.

**3.2.3 The EAC after deliberations recommended the project for grant of Environmental Clearance with the following conditions:**

- i. Tree cutting shall be with prior approval of Competent Authority and Compensatory Afforestation of at least 1:3 shall be carried out.
- ii. The waste shall be properly collected and disposed. PP also explore “waste-to-energy” or “waste-to-manure” facilities.
- iii. CSR activities as committed including supporting the existing Eco-Development Committees shall be implemented.
- iv. All the recommendations of EIA/EMP including safety aspects shall be complied with.

**3.3 Proposed construction of Chhatrapati Shivaji Maharaj Memorial along with equestrian statue of Chhatrapati Shivaji Maharaj in the Arabian Sea of the Coast of Mumbai, Maharashtra by M/s PWD, Mumbai – Environmental and CRZ Clearance [F.No.11-4/2015-IA-III]**

3.3.1 The proposal was considered by the EAC in its meeting held from 28<sup>th</sup> -30<sup>th</sup> January, 2015 and recommended for grant of ToRs. The Chief Engineer, PWD, Mumbai vide letter dated 03.02.2015 informed the Ministry that the EIA/EMP have already been prepared and based on the ToRs suggested by the EAC during its meeting held from 28<sup>th</sup> - 30<sup>th</sup> January, 2015 the same has been updated and submitted. The CE also requested to consider the proposal based on State and National importance.

3.3.2 PP made a presentation and informed that:

- i. The Government of Maharashtra intends to establish a memorial and statue of Chhatrapati Shivaji Maharaj, off Nariman Point, Mumbai. The memorial is aimed at not only providing a place for people to visit, but also create an internationally acclaimed landmark of our country.
- ii. The memorial shall be a 190 m high statue of the Chhatrapati Shivaji Maharaj.
- iii. The identified location is an oval shaped Rocky out crop at latitude 18°55' 33.8" N and longitude 72° 47'25.0" E, of approximately 650 m x 325 m in size. The identified location is 1.2 km southwest of Raj Bhavan, 3.6 km southwest of the Girgaon jetty and 2.6km west of Nariman point.
  - iv. The statue will be built on rocky outcrop, which is exposed only during low tide and hence sheet pile walls are proposed to be erected along the boundary of the project site to prevent sliding and wall of 13 m height is proposed to protect the area from sea water.
- v. The proposed project area is under the jurisdiction of Port of Mumbai.
- vi. Following Clearances/Permissions have already been obtained:
  - Terms of Reference (TOR) from MOEFCC.
  - Government Resolution passed for the project
  - NOC from Mumbai Port Trust
  - NOC from Western Naval Command
  - NOC from Fisheries Dept.
  - NOC from BNHS
- vii. Following Studies have been carried out:
  - Geotechnical Study Conducted and report prepared by Indian Institute of Technology (IIT, Mumbai)
  - EIA and Wave Behaviour Study and Report made by National Environmental Engineering Research Institute (NEERI, Nagpur) and National Institute of Oceanography (NIO, Goa).
  - Environmental Management Planning, Disaster and Safety Management Plan prepared by Fine Envirotech Engineers, Mumbai.
- viii. The areas assigned for different infrastructure facilities as follows:

<b>Sr. no.</b>	<b>Description</b>	<b>Area (sq.m.)</b>
1	Total area cover (Rock surface area)	<b>15.96 ha</b>
2	Area of pedestal at ground floor	16237.00
3	Area of pedestal at first floor	10024.00
4	Area of pedestal at second floor	5302.00
5	Area of residences for staff security	6000.00

6	Roads and platforms	28410.09
7	STP and WTP	409.00
8	Public toilets	300.00
9	Helipad	790.00
10	Jetty (2 main, 1 jetty for VIP and 1 jetty for service)	100 x 12

- ix. The central core of the pedestal has to support the statue of Chhatrapati Shivaji Maharaj, which is about 160 m in height from the base.
- x. It consists of three layer pedestal of concrete (M60 grade) with stone cladding of natural stone (Granite). The natural stone granite is suggested by the Department of Earth Science of IIT Bombay, Mumbai.
- xi. The height of pedestal is 32.5 m. The first level of pedestal is about 140 m x 140 m x 10 m in dimension; second level of pedestal is about 110 m x 110 m x 10 m; the dimension of third level of pedestal is 80 m x 80 m x 10 m.
- xii. The material for pedestal is proposed as M60 concrete with optimum use of silica fume or fly ash which in turn solves the problem of dumping of fly ash and fume on the fertile land, and provides more strength and durability to the structure.
- xiii. First sheet pile walls will be erected along the boundary of the project site. Sufficient number of piles will be driven in the rocky outcrop to prevent sliding. The construction of sheet piles is planned during the non-monsoon period and is expected to be completed in 6 months.
- xiv. Ready mix concrete of M60 grade will be pumped from the Raj Bhavan side through 300 mm diameter HDPE pipeline with help of pump of capacity 4000 Hp.
- xv. The steel and 40,000 m<sup>2</sup> natural granite stones will be transported from Mumbai Port to the project site through barges. The armour layer of breakwater will be made of tetrapod to withstand the expected design wave height. A temporary jetty will be constructed for unloading the materials and machinery transported through the barge.
- xvi. The berthing jetty will be on concrete piles. The fortified wall will be made of concrete structure.
- xvii. The following issues w.r.t. tourists were collected and analyzed:
  - A survey was carried out at the existing tourist location of Gateway of India to work out potential tourists visiting the proposed Memorial.
  - Three days tourist count was taken with the help of well trained enumerators, data collected with break up of International tourists and Domestic tourists, Local (MMR Region) and Outside MMR Region
  - It is assumed that the tourists presently visiting Gateway of India would be the potential tourists for the proposed Memorial.
  - It is assumed that the tourists from Mumbai, repeatedly visiting Gateway of India (at present), may not visit Memorial every time.

- Number of tourists visiting Elephanta Caves at present, could be considered as potential visitors for proposed Memorial.
  - According to survey carried out for 3 days for a peak season, the number of tourists on week- days are nearly 50% of number of tourist on Sundays and Holidays. Thus tourists count for Tuesday, Wednesday, Thursday and Friday are considered as 50% of tourists on Sunday.
  - According to the past data collected from Maharashtra Tourism Development Corporation (MTDC) the Seasonal variation is nearly 8% less than Annual Average Daily Tourist (AADT) from the month of February to September and 9.5 % higher than AADT from the month of October to December. Thus, seasonal variation of 8.64% has been considered for arriving at AADT.
  - According to MTDC's past data, 25% of tourists from Gate Way of India visit Elephanta Caves, who can be considered as potential tourists visiting the proposed Memorial
  - Future tourist growth is considered as 10% per year based on the past trends.
- xviii. Annual average daily tourists at proposed Memorial would be 10,000.
- xix. Total parking for 1343 nos. of cars, 216 nos. of taxi, 2 nos. of mini buses, one tourist bus and one LCV are proposed.
- xx. MCGM has proposed dedicated multi level parking facility at Kala Ghoda and at S.P. Mukharjee Chowk.
- xxi. Following issues have taken into account w.r.t. Traffic Dispersal:
- Free shuttle service (Mini bus) facilities are proposed for dispersal of tourist from; Chhatrapati Shivaji Terminal (CST) to take off points, Church Gate to take off points, Kala Ghoda to take off points.
  - This will avoid direct entry of cars to the take off points and will be helpful to existing parking also.
- xxii. Future Impact of Metro services were also analysed which are as follows:
- Metro services are expected to operate in next 5 years.
  - It is expected that local tourist will shift their mode of transport from cars to metros. However, growth of 10% is considered to prepare a master plan for traffic dispersal system
  - This will help partly to reduce the parking requirements in future
- xxiii. Disaster Management Plan (DMP) was also analysed which is as follows:
- Considering the large volume of tourists, disaster management plans are prepared for individual parking lots as well as for Memorial area
  - This includes fire safety equipments, public address system, signage's showing evacuation route, safety information, emergency contact numbers, mobile cardiac van, internal security arrangements, local police chowky, etc.
  - Linking this DMP with DMP of State unit
- xxiv. Evacuation Plans were also analysed which are as follows:
- In case of disaster on Island following are the alternatives for evacuation of tourists:
    1. Air lifting by Helicopter service

2. Deployment of Navy Boats
3. Fire Safety Equipment

- xxv. Fire Water Storage tank: Water storage tanks would be installed near each of the four corners of the memorial. Pipelines would be connected from these tanks to every nook and corner of the Memorial so that necessary actions could be taken as soon as possible. These tanks would be automatically replenished with water from the sea.
- xxvi. Fire Alarm System: Fire Alarm system consisting of smoke detectors, heat detectors shall be provided in the Corridors, and every part of the buildings. Manual call points hooter, public address system, main and repeater panels shall be provided as per the rules and regulations
- xxvii. CRZ demarcation has been carried out by NIO, Goa and the project site falls under CRZ-IV, Jetty for the transportation of the passengers will be in CRZ-1B. No mangroves are present near the site.
- xxviii. MCZMA recommended the project vide letter No. CRZ 2014/CR 25/TC 4 dated 23.01.2014.
- xxix. The cost of the project is Rs.1900 Crores.
- xxx. Wildlife issues: There are no eco sensitive areas within 10km radius of the site.
- xxxi. No Forest land involved in the project.
- xxxii. There is no court case pending against the project.
- xxxiii. There shall be zero discharge of waste water and garbage into the sea at the memorial site.
- xxxiv. There will be no dredging at the site.

**3.3.3 The EAC after deliberations recommended the project for the grant of Environmental and CRZ Clearance with the following conditions:**

- i. All the construction shall be in accordance with CRZ Notification, 2011 and its amendments thereto.
- ii. All the recommendations/conditions of the MCZMA shall be strictly complied with.
- iii. The evacuation management system shall be inter-alia based on maximum holding capacity of the island, handling capacity of jetty and infrastructure and the maximum number of tourist who are proposed to be at the Memorial site at any point of time.
- iv. The maximum number of visitors to the memorial should be based on maximum carrying capacity as well as evacuation capacity on any unforeseen situation, after accounting for the vessels who may be deployed in the transit of passengers/ tourists who are in the process of coming to the memorial or returning from it. Evacuation of people shall be devised in a manner taking into account the availability of boats, discounting the boats deployed in transit of tourist to and from the site, meaning thereby emergency evacuation by 3000 tourists/visitors from the memorial shall be a stand alone facility.
- v. There shall be no dredging as informed by the Project Proponent.
- vi. Transport of construction material to Raj Bhawan site: Trucks chosen for transport should have low noise and low emissions and comply with the norms. However, best maintained trucks would have noise levels between 85 to 95 dBA per truck. Alternate route of transportation should also be explored. Transportation by sea route may also be considered.
- vii. Pumping ready mix concrete from Raj Bhawan: Noise barriers are required to be installed to reduce the noise level due to pump operation, within the prescribed limits..
- viii. Boats used for passenger transport shall use cleaner fuel such as CNG.
- ix. The parking facility shall be based on the peak time parking. Multi level parking shall be created so as to reduce the parking and traffic congestion at Gateway of India and Nariman Point.

- x. Evacuation plan shall have stand alone facilities including dedicated earmarked boats/barge, helicopters, medical relief agencies. The plan shall have details of division of labor among all stakeholders connected with the evacuation plan, and periodic safety drills should be undertaken.
- xi. NOC from the Western Naval Command be obtained for evacuation/emergencies as well as for the final height of the proposed memorial structure.
- xii. PP shall make arrangements for collection and disposal of solid waste generated at boarding points and also at the Memorial. Composting of bio-degradable waste shall be carried out and non-degradable waste shall be transported to land for further disposal and treatment in accordance with the regulations.
- xiii. The RO rejects shall be disposed at a point where sufficient dilution is available.
- xiv. The wastewater generated at the Memorial shall be treated and recycled for gardening/flushing etc. and in no case it shall be discharged into the sea. There shall be zero discharge of waste from the Memorial project into the sea as indicated by the Project Proponent.
- xv. Lights which are least attractive to the birds, like red and blue light, can be considered.
- xvi. Areas would be made available on higher floors for the assembly of large crowds, vertical transfers (airway) will be made available in flood/storm/Tsunami situations.
- xvii. Clearances from Fire Department shall be obtained for the project, Who shall regularly inspect the devices.
- xviii. Adequate number of free boats, helicopters shall be in standby or immediate availability mode so as to evacuate the visitors from the memorial on any unforeseen situation.
- xix. Detailed on-site and off-site Emergency Management Plan shall be put in place under the supervision of District Collector. Periodical review and mock drill shall be conducted under the supervision of District Collector.
- xx. At least a ten bedded hospital shall be established including three beds for VIPs and other for general tourists.
- xxi. There should not be any impact on marine life at the time of driving sheet piles and also boundary wall should be designed for Tsunami/ Storm Surge.

### **3.4 Expansion of Port facility at Hazira, Surat, Gujarat by M/s Essar Bulk Terminal Ltd. [F.No11-46/2011-IA-III] – Amendment in Environmental & CRZ Clearance**

3.4.1 PP made a presentation and informed that:

- i. Environmental and CRZ Clearance for the expansion of port facility at Hazira was granted by the Ministry vide letter dated 06.05.2014. According to the clearance, it was permitted to use the dredged material for reclamation of the port and port back up area and excess material to be disposed off in the GMB/CWPRS approved sites.
- ii. JNPT has Environment and CRZ Clearance for construction of 4<sup>th</sup> container terminal and marine container terminal which envisages 200 ha reclamation, hence requested the excess dredged material.
- iii. The dredged material is planned to be transported from Hazira in Trailer Suction Hopper Dredger or through barges for reclamation at JNPT.

**3.4.2 The EAC after deliberations recommended for grant of amendment in Environment and CRZ Clearance for providing excess dredged material from Hazira to JNPT for reclamation at JNPT.**

**3.5. Two way Passenger Ropeways from Shunarang at village Ralli to Badodhar at village Mebar, Himachal Pradesh by M/s Maheshwar Gram Vikas Committee,**

**Gram Panchayat Mebar, Kinnaur District of Himachal Pradesh - Finalization of ToR - [F.No10-24/2014-IA-III]**

**3.5.1 The PP did not attend the meeting, hence the EAC deferred the consideration of the project.**

**3.6 Deepening of the Navigational Channel at Kadmath, Lakshadweep Islands by M/s Andaman Lakshadweep Harbour Works [F.10-29/2014-IA-III] – Finalization of ToR**

3.6.1 PP made a presentation and informed that:

- i. Kadmat is one of the islands in the Lakshadweep group in Arabian Sea, about 5 km north of Amini Island. It lies between 11° 10' and 11° 16' N latitude and 72° 45' and 72° 48' E longitude. Having an area of 3.20 sq km, Kadmat is at a distance of 407 km from Kochi and located between Amini Island in the south and Chetlat Island in the north. The lagoon area is 37 sq km.
- ii. The entrance to the navigational channel to Kadmat has coral rocks which obstruct the entry of ferry vessels up to the lagoon. Even dinghies sometimes get toppled due to waves. Ministry of Environment & Forest accorded clearance for removal of rocks through underwater blasting vide Environment Clearance No. J-21011/9/93-IA dated 18/03/1994. However, the dredging could not be done due to limited logistics and non-availability of experts for underwater blasting at that site. Due to some accidents in the recent past, UT Administration of Lakshadweep has requested to clear the rocks. Accordingly the channel is proposed to be widened to 22 m from existing 16 m and dredged to – 3m from existing 0.5 m CD.
- iii. During this process 83700 cu m sand and 2020 cu m of rock shall be removed and brought to shore for shore nourishment/ utilization by locals for various construction purposes. The entire project will be completed in twelve months with an investment of Rs. 9.5 crores.

3.6.2 The EAC appreciated the detailed presentation by the PP. The Committee realized the priceless undersea wealth of the Coral Reefs and the irreversible damage likely to be caused by the proposed activities. Such natural priceless locations need great sensitivity for preservation. The EAC after deliberation advised the Project Proponent to explore possibility of establishing the facility on the eastern side where there could be less corals or less damage.

**3.7 Development of Stretch between Pedaganjam to Ennore south of North Buckingham Canal in National Waterway- 4 in Andhra Pradesh and Tamil Nadu by M/s Indian Waterways Authority of India (IWAI) - [F.No10-1/2015-IA-III] – Finalization of ToR**

3.7.1 PP made a presentation and informed that:

- i. The proposal involves development of Stretch between Pedaganjam to Ennore south of North Buckingham Canal in National Waterway- 4 in Andhra Pradesh and Tamil Nadu
- ii. The total distance of National Waterway-4 covering Kakinada-Puducherry stretch of Canals and the Kaluvelly Tank, Bhadrachalam - Rajahmundry stretch of River Godavari and Wazirabad-Vijayawada stretch of River Krishna is about 1095 km.
- iii. PP is proposing to develop NBC (North Buckingham Canal) from Ennore Sea mouth to Pedaganjam for about 300 km the initial stage. The second stage for developing irrigation canals i.e., Commamur Canal, Eluru Canal and Kakinada Canal for 302 Km shall be initiated after receiving the assurance from State Government that they shall be supplying

adequate water in these canals. In the final stage, the development of river portion i.e. Krishna and Godavari shall be considered only after completion of construction works of dams and navigational locks across these two Rivers.

- iv. The North Buckingham Canal runs for a distance of 316 km starting from Ramperu Lock and ends at Central Station of Chennai, from where the South Buckingham canal starts .The South Buckingham Canal runs for a distance of 110km and ends at Kovalam lock.
- v. North Buckingham canal has a bed width ranging from 15 m to 30 m. Sea water being the main source of water for the entire Buckingham canal, the North Buckingham Canal has sea connections at several places and sea water enters into the canal during high tides. At present the condition of North Buckingham Canal is such that it remains almost dry. The banks have been eroded. There are many saltpans all along the canal. During March to July every year, the canal remains totally dry as revealed from the discussions with A.P. Govt. and T.N Govt. authorities. The range of the tide is about 0.7 to 1.0 m. There are following confluences of rivers along the North Buckingham Canal:
  - a. River Paleru Confluence
  - b. River Manneru confluence
  - c. River Musi confluence
  - d. River Pennar confluence.
- vi. Construction of four nos. of Terminals along the North Buckingham Canal from Pedaganjam to Ennore at Kottapatnam in Prakasam Dist of Andhra Pradesh, Maipadu in Nellore Dist of Andhra Pradesh, Durgarajupatnam in Nellore Dist of Andhra Pradesh and Ennore (South) in Tiruvallur Dist of Tamil Nadu.
- vii. Dismantling and modification of existing cross structures i.e. Bridges (about 35 nos.), navigational locks (23 nos.) etc.
- viii. Dredging and excavation for maintaining canal depth and width for suitable navigation.
- ix. Bank protection and protection of sea mouth(e.g. River Paleru, Manneru, Musi and Pennar confluence).
  - x. About 35 bridges falling along the routes, out of which 18 to be modified.
  - xi. 23 nos. of navigational locks to be developed.
  - xii. About 12.8 MCM quantity of dredging (approx. 17 sites) has been work out for 32m wide bed and depth 1.8m and length of 0 to 297 km
  - xiii. About 6.28 MCM quantity of raising banks (approx. 17 sites) has been worked out.
  - xiv. Width proposed for two-way navigation in IWT is determined as 32.4 m for movement of 300 t barge in the stretch of NBC.
  - xv. Land to be acquired for 100m corridor of NBC/IW is 182.85 ha. Of which 129.9 ha is in Andhra Pradesh and 52.95 ha in Tamil Nadu.
  - xvi. 2 km from Pulicat Lake & Pulicat Bird Sanctuary is eco sensitive area based on draft notification of MoEF&CC dated 03.01.2014 and the existing Buckingham canal passes through it.

### **3.7.2 The EAC after deliberation recommended to grant the ToR with the following specific ToRs.**

- i. Submit a copy of feasibility study conducted for the proposed project for the availability of pathway in view of the existing bridges, road crossings, obstructions etc
- ii. Hydrodynamic study on waterway along with sea inlets to ensure water availability throughout the year along with proposed draft along different sections of waterway to meet navigation requirement of proposed vessels with their size with full weight. The details of natural inlets and strategies for maintaining inlets free from siltation to ensure sufficient flow into navigation channel.

- iii. Location of the proposed terminal within the waterway on the map. Justification should be provided whether CRZ clearance is also required for the terminals in view of their location within the CRZ limits.
- iv. List of components should be submitted for which the CRZ clearance is required.
- v. Study on the availability of draught for the movement of the vessels
- vi. Requirement of number of bridges, road crossings, obstructions to be dismantled/removed/reconstructed and its impact on the local population as well as on the environment.
- vii. Examine details of land use around 10 km radius of the project site. Analysis should be made based on latest satellite imagery for land use with raw images.
- viii. Submit details of environmentally sensitive places, land acquisition status, rehabilitation of communities/ villages and present status of such activities.
- ix. Examine the impact of proposed project on the nearest settlements.
- x. Examine baseline environmental quality along with projected incremental load due to the project.
- xi. Source of water vis-à-vis waste water to be generated along with treatment facilities to be proposed.
- xii. Examine the details of water requirement, use of treated waste water and prepare a water balance chart.
- xiii. Since building construction activities are also included in the various project activities, the water requirement, sewage disposal and treatment, electrical load, energy conservation measures etc. should also be included in the EIA report.
- xiv. Examine and submit details of use of solar energy and alternative source of energy to reduce the energy consumption.
- xv. DG sets are likely to be used during construction and operational phase of the project. Emissions from DG sets must be taken into consideration while estimating the impacts on air environment. Examine and submit details.
- xvi. Examine road/rail connectivity to the project site and impact on the traffic due to the proposed project. Present and future traffic and transport facilities for the region should be analysed with measures for preventing traffic congestion and providing faster trouble free system to reach different destinations in the city.
- xvii. A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.
- xviii. Examine the details of transport of materials for construction which should include source and availability.
- xix. Submit a map demarcating HTL / LTL prepared through an authorized agency and superimposing the plan if the past project is falling under CRZ.
- xx. Submit recommendations of the SCZMA regarding the development of Industrial Corridor.
- xxi. Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.
- xxii. Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster.
- xxiii. R&R details shall be submitted.

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**Minutes of the 145<sup>th</sup> of Expert Appraisal Committee for Projects related to Infrastructure Development, Coastal Regulation Zone, Building/Construction and Miscellaneous projects held on 9<sup>th</sup> February, 2015 at Conference Hall (Teesta), Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi -110003.**

**List of Participants**

**Expert Committee**

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|-----------------------------|----------------------------|
| 1. Shri Anil Razdan         | Chairman                   |
| 2. Dr. M.V. Ramana Murthy   | Member                     |
| 3. Dr. R. Prabhakaran       | Member                     |
| 4. Dr.Anuradha Shukla       | Member                     |
| 5. Ms Mita Sharma,          | Member                     |
| 6. Dr.Manoranjan Hota       | Director &Member Secretary |
| 7. Shri E. Thirunavukkarasu | Joint Director, MoEF&CC    |
| 8. Shri Yogendra Pal Singh  | Joint Director, MoEF&CC    |

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