

## Minutes

The Minutes of the 125<sup>th</sup> Meeting of the Expert Appraisal Committee for Building/Construction Projects/Township and Area Development Projects, Coastal Regulation Zone, Infrastructure Development and Miscellaneous projects held on 10<sup>th</sup> - 12<sup>th</sup> June, 2013 at India Islamic Centre, Lodhi Road, New Delhi.

### 1. Opening Remarks of the Chairman.

The Chairman welcomed the members to the 124<sup>th</sup> meeting of the Expert Appraisal Committee.

### 2. Confirmation of the Minutes of the 124<sup>th</sup> Meeting of the EAC held on 13<sup>th</sup> – 14<sup>th</sup> May, 2013 at New Delhi.

Minutes of the 124<sup>th</sup> Meeting of the EAC held on 13<sup>th</sup> - 14<sup>th</sup> May, 2013 at New Delhi were confirmed.

**In item ‘Rehabilitation and Upgradation of the existing 2- lane road to 4-lane with paved shoulder configuration of NH Stretches Cuttack - Angul (Jn with NH-5 in Cuttack of NH-42) Section of NH-42 from km 0.000 to 112.000 ( Length = 112 km ) under NHDP – IV-B [Group B (Package No. OR/DPR/NHDP/IV/06)] (F. No. 10-76/2011-IA-III)’ the project details shall be replaced by the following:**

The Project road starts at km 0.0 near Mungli Chowk on NH-42 (Jn with NH-5 in Cuttack) and ends at Angul at km 112.0 of NH-42. Total length of the road is 112 km. The project road traverses through three districts viz. Cuttack, Dhenkanal and Angul. The entire project road passes mostly through plain /rolling terrain. The existing road has 7 m wide carriageway and shoulder varying from 1 to 2.5 m wide on either side. The existing ROW ranges from 14 m to 30 m. The proposed ROW is 60m. The proposed road does not pass through any National Park, Wildlife Sanctuaries and Eco-sensitive Zones. At nine stretches, it passes through Reserve Forests and one Elephant corridor at km 19.200 (Khuntani Range under Athgarh Division). 270.38 ha of private agricultural land, 92.53 ha of private built-up land area and 128.09 ha of Government land have to be acquired. Proposal for diversion of 28.45 ha forest land is with State Government (Reserve Forest : 9.85 ha and Village Forest : 18.60 ha). Two bypasses are proposed of which one bypass of 21.6 km length is provided to Angul town and another bypass to Indipur for 3.7 km length. There are 136 intersections (major 32; minor 104) with NH-5, NH-23 and SH, Municipal roads/town roads. All junctions will be improved.

There are 3 nos Major bridges of which existing two major bridges proposed for widening with additional 2-lane bridge and remaining 1 no. new 4-lane bridge is to be constructed in the bypass. Of total 22 nos of Minor bridges 13 nos. proposed for additional 2-lane, 5 nos. to be replaced with new 4 lane bridges, 3 nos. of new 4-lane bridge in bypass stretch and remaining 1 bridge is retained. 113 nos. of existing culverts will be improved/widened to 4 lane and additional new 100 nos.of 4-lane culverts are proposed. There is an existing 2 lane ROB at Km.20/973 which will be widened to 4-lane. 5 flyovers at km.25.388, km. 38.738, km

48.094, km 90.005 and km 110.881 will be provided. The proposed length of Service Road in built up areas is 20.20 km at 12 locations . One animal underpass at km. 19.200 and 7 Vehicular-cum-Pedestrian underpasses are proposed. Two Toll plazas provided at Km 22+800 and Km 85+200. 2x37 nos of Bus bays on both sides with bus shelter and one truck lay-bye at km 19+900 will be constructed.

2550 nos. of trees exists within the existing ROW which was informed during TOR stage. 15,700 nos. of trees exists within the proposed 60m ROW, however tree felling will be restricted to 9650 nos. by restricting tree cutting within 45 m ROW. 96,500 trees shall be planted as avenue plantation as per norms of Odisha Government in lieu of felling of 9650 trees. In addition compensatory afforestation shall be carried out by the Forest Department as per statutory requirement. 1887 nos structures (both kutcha, pucca and semi-pucca) will be affected partially/completely. 50 religious structures (49 small road side temples and 1 temple), 8 nos of educational/ institutional buildings and 2 nos of Health Centres will be affected partially/completely. Affected families / structures /will be compensated as per NH Act. There are 34 water bodies ( 3 rivers,, 7 canals, 11 nullahs & 13 ponds) along the project road. 700 KLD water is proposed to be extracted from surface and 50 KLD from groundwater. 55,000 cum of Fly ash is proposed to be used from Talcher Thermal Power plant. The budget for environment management is Rs. 30.50 Crores. The estimated cost for Land Acquisition is 82.52 crore, Resettlement & Rehabilitation cost is approximately Rs. 20.00 Crores. The estimated Civil cost is Rs.958.63 Crores.

**In item ‘Rehabilitation and Upgradation of existing 2 -lane road to 4-lane with paved shoulder configuration of NH Stretches Angul-Sambalpur (Jn. of NH-6 at Sambalpur) Section of NH-42 from km112.000 to km.265.000 (Length = 153 km ) under NHDP – IV-B [Group B (Package No. OR/DPR/NHDP/IV/06)] [F. No. 10-78/2011-IA-III],’ the project details shall be replaced by the following:**

The Project road starts from Angul at Km 112.000 and ends at Sambalpur at Km. 265.000 (Jn. of NH-6 at Sambalpur) on NH-42. Total length of the road is 153 km. The project road traverses through two districts Angul and Sambalpur. The entire project road passes mostly through plain/rolling terrain. The existing road has 7 m wide carriageway and shoulder varying from 1 to 2.5 m wide on either side. The existing ROW ranges from 12 m to 46 m. The proposed ROW is 60m. The proposed road does not pass through any National Park, Wildlife Sanctuaries and Eco sensitive zones. In three stretches, it passes through Reserve Forest and 5 nos. of notified Elephant corridors.

240 ha of private agricultural land, 40.50 ha. of private built-up land and 348.30 ha. of Government land is proposed to be acquired for the widening of this road. Proposal for diversion of 49.24 ha forest land is with State Government (Reserve Forest : 6.28 ha and Village Forest : 42.96 ha).

3 no of existing major bridges will be widened with additional 2-lane bridge and the 1 existing major bridge is to be reconstructed to 4-lane after dismantling the existing one. 27 no. of existing minor bridges will be widened with addl. 2-lane bridge, 9 no. existing minor bridges will

be reconstructed to 4-lane bridges after dismantling existing and 1 no. new 4-lane bridge is proposed in Sambalpur bypass. 242 nos. of existing 2 lane culverts will be widened to 4 lane and Reconstruction proposed for 188 nos. existing culverts to 4-lane.

There are 103 (major 38, minor 65) intersections with NH and SH, Municipal roads/town roads in the project stretch. All junctions will be improved. 3 Vehicular-cum-pedestrian underpasses have been provided in proposed Sambalpur Bypass and 4 flyovers /grade separators are provided. There is one level crossing at km.147.354 where construction of a new 4-lane ROB is proposed. 5 Elephant/Animal underpasses are proposed to be constructed at km 194+548, 242+846, 247+183, 249+609 and 252+829. Service Roads for total length of 24.50 km will be provided at 11 locations of built-up areas. One bypass of length 3.90 km will be provided to Sambalpur town (from km. 258.958 to 262.858).

4225 nos. of trees exists within the existing ROW which was informed during TOR stage. 41,000 nos. of trees exists within the proposed 60m ROW, however tree felling will be restricted to 25,450 nos. by restricting tree cutting within 45 m ROW. 2,54,500 trees shall be planted as avenue plantation as per norms of Odisha Government in lieu of felling of 25,450 trees. In addition compensatory afforestation shall be carried out by the Forest Department as per statutory requirement.

2604 nos structures (both kutcha, pucca and semi-pucca) will be affected partially/completely. 24 religious structures i.e. small road side temples, 20 nos of educational/institutional buildings and 3 nos of Health Centres will be affected partially/completely. Affected families / structures will be compensated as per NH Act.

There are 64 water bodies (26 ponds, ditches, 29 nullahs and 9 rivers) are along the project road. 825 KLD of water is proposed to be extracted from surface sources and 50 KLD from ground water. 60,000 cum of Fly ash is proposed to be used from Talcher Thermal Power plant. The budget for environment management is approximately Rs. 80.50 Crores. The estimated cost for Land Acquisition is 85.00 crore, Resettlement & Rehabilitation cost is approximately Rs. 22.00 Crores. The estimated Civil cost is Rs.1098.01 Crores.

**In item ‘Rehabilitation & up-gradation of existing Carriageway to 4-lanning of Hansdahihar to Anupgarh Haryana Border Section (Km. 239.000 to km 307.000) of NH-71 in the State of Haryana. [ F.No. 10-4/2011-IA-III]’, the project details shall be replaced by the following:**

The project road starts near Hansdahihar at km 239.000 and ends at Anupgarh/Haryana Border at km 307.000 on NH-71. The terrain along the project road is plain from Km 239.00 to Km 307.000 in rolling. The existing length of the project road is about 68.000 km. The project road passes through the Jind district of Haryana State. Existing ROW width varies from 20 to 43 m. The proposed ROW varies 31 to 60 m except Toll Plaza. There is no wildlife sanctuary or national park within 10 km distance from the project road. One (01) bypass /major realignment is proposed in the project road, namely, Jind Bypass (Km 292.700 to Km 307.000). 180 ha land is proposed to be acquired for widening and bypasses on the project road. Proposal for diversion of

101.090 ha forest land is with Central Government. Total water requirement will be 300 kld, which will meet through surface water and ground water sources. Structures Details:-Existing 5nos of 2-lane minor bridges, 26nos Slab culvert, 1nos of Arch Culvert, 100nos of Pipe Culvert. Proposed: 2nos of ROB, 4nos of Flyover, 1nos of Pedestrian Underpass, 03 Reconstruction (one side)+01 Rehabilitation+5 New (4 one Side and 1 both Side) of Minor Bridge, 28nos of Slab Culvert, 116nos of Pipe Culvert, The service roads will be provided in the length of 10.040 km (LHS+RHS) at 3 Locations. Bus Bays will be provided at 7 locations both Side. All major junctions (06) and minor junction (47) will be improved in the project road as per IRC guidelines. Toll plaza is proposed at 1 location in the project road. 21047 trees are likely to be felled for 4 laning of the project road. 15 residential structure and 74 commercial structures may be affected due to 4 laning of project road. Affected families will be compensated as per National Highways Act, 1956. The budget for environment management and monitoring has been earmarked as Rs. 25 Crores (including cost of CA). The estimated cost for Resettlement & Rehabilitation (excluding Land Acquisition) is Rs. 2.25 Crores. The Total Civil cost of the project is Rs. 351 Crores. The Total project cost of the project is Rs. 439 Crores.

### **3. Consideration of old Proposals:**

#### **3.1 Amendment in CRZ Clearance issued M/s GMB for Ro Ro Ferry Service at Ghogha and Dahej ( File No 11-140/2008-IA-III)**

As presented by the project proponent, CRZ clearance for RoRo ferry Service was granted on 14.06.2010. An amendment on dredging quantity was granted on 28.12.2011. Now, there is change in the disposal of ground for dredge material. Originally, it was decided to disposed 2500m water front area along Narmada Estuary and behind the Ro Ro facility at Dahej which is lying in SEZ corridor. SEZ corridor having low lying area was proposed to be protected by the containment bund and the dredged material was to be dumped to contribute to the reclamations in to containment area to elevate the existing average ground level of +2 m to desired level of + 12 m. However, the developers of SEZ area have not yet come forward to establish their projects n to SEZ, therefore it was required to change the dumping ground. In Ghogha area, mangroves have come hence it is proposed not to dispose in Ghogha. Therefore, it is proposed to dispose the dredge material in to deep sea at three locations identified by DHI study.

During the discussion, the following points emerged

- (i) *The disposal shall be carried out in location II and location III, The left over alone only shall be disposed in slight southern side of location-I As such, the location I, which is close to Narmada Estuary mouth and having depth less than 20m, is not recommended for dumping. The disposal shall be carried out at depths of 25 m or more upto fillup of 30 cm or less. Initial and final sounding records for depth of the disposal sites and GPS records shall be maintained for vessels carrying out disposal. The disposal shall be carried out in the ebb tides and shall be ensured that water quality of Narmada estuary mouth is not affected under no circumstances..*

- (ii) *The mangroves at Ghogha shall be protected in consultation with Forests department. A report on the development plan, area for development, yearly budget allocation shall be submitted to this ministry in six months.*

***The Committee recommended to issue amendment to CRZ clearance.***

**3.2 Extension of validity of ToRs for construction of North Cargo Berth-III, North Cargo Berth-IV at VO.Chidambaranar Port, Tutticorin, Tamil Nadu- (F.No.11-139/2010-IA.III)**

ToRs were issued on 27.05.2011. Earlier, agency selected for EIA study did not complete the study. Hence requested for extension of validity. Further, the EAC while finalising the ToR exempted Public Hearing however, public hearing was insisted in the ToR letter.

**During the discussion, the following points emerged**

- i) Submit the details of the Green belt showing the existing and proposals*
- ii) Submit compliance details on the conditions of previous EC/CRZ clearance.*
- iii) Submit the details of Oil Contingency plan along with the infrastructures.*
- iv) Submit the details of the Cargo evacuation system*
- v) Submit the details of ships wastes management*

***The Committee recommended to extend the validity of ToRs by one year. The Public Hearing issue to be looked after by MoEF.***

**3.3 Finalisation for Numaligarh to Jorhat of Nagnon to Jorhat section of NH 37 in the state of Assam. (F.No.10-72/2010-IA.III)**

The project was considered by the EAC in its meeting held in October, 2010 and finalized the following TOR. Proponent informed that the project road does not falls within 10 km radius from any eco-sensitive areas. However, the project road from 403.200 to km 418.900 falls within NDZ of Numaligarh Notification - S.O No. 481 (E) dated 5<sup>th</sup> July, 1996. Hence, prior approval is required. PP shall obtain clearance under the Notification.

***The Committee deferred the project and suggested the PP to submit the approval under the S.O 481(E) dated 5<sup>th</sup> July, 1996.***

**3.4 Extension of ToRs issued to M/s NHAI for 2 lane with paved shoulder configuration of NH-32 from Km. 70,000 at JHR/WB Border- Purtiya- Balrampur ( West Bengal) to Junction with NH-33 State of West of Bengal and Jharkhand. (F.No.10-14/2011-IA.III)**

Proponent informed that ToRs were granted on 16.05.2011. Public Hearing is fixed in June, 2013, hence requested to extend the validity of ToRs.

***Committee recommended extension of validity of ToRs by one year.***

**3.5 Extension of validity of Environment clearance issued to M/s NHAI for 4/6 laning of Panchkula-Barwala-Saha-Yamunagar-Haryana up to HR/UP Border of NH-73.(F.No. 5-12/2009-IA-III)**

EAC recommended the grant of EC subject to submission of FC. FC has not been submitted within one year as per OM dated 31.03.2011. Proponent has informed that there is no change in the scope of the project.

*Committee noted that there are no change in the project component and hence recommended the grant of EC as per OM dated 19.03.2013.*

**3.6 Extension of validity of ToRs for 2 lane with paved shoulder of Biaora-MP/Rajasthan Border existing km 2.600 to Km 67.00 section of NH-12 in the State of Madhya Pradesh by M/s MPRDC Ltd.(10-28/2011-IA.III)**

ToRs were granted on 21.05.2011. Proponent informed that earlier the project was with NHAI, now, it is proposed to transfer the project to the State Government hence there was delay.

*Committee noted that there are no changes in the project component and hence recommended the grant of EC*

**3.7 Extension of validity of ToRs for four lanning of Jabalpur-Bhopal Road(NH-12)section from Km 201.00 to Km 301.80 Bareli to Bhopal section. M/s MPRDC Ltd.(10-47/2011-IA.III)**

Proponent informed that Jabalpur to Rajmarg was granted EC on 10.04.2007, Rajmarg to Baireli was granted EC on 10.06.2007 and Baireli to Bhopal ToRs were granted on 21.09.2010. Now, it is proposed have s single project from Jabalpur-Bhopal.

*Committee suggested to make a fresh application for grant of ToRs since the EC has expired.*

**3.8 Extension of validity of ToR for 2 lane with paved shoulder of Jabalpur-Mandla-Chilpi road existing km  $\frac{3}{4}$  to km 192/4 section of NH-12A in the state of Madhya Pradesh. M/s MPRDC Ltd.(10-71/2011-IA.III)**

Proponent informed that the ToR was granted on 17.08.2011 however, Public Hearing has not been conducted, hence requested to extend the validity of ToR. Proponent has informed that there is no change in the scope of the project.

*Committee recommended the extension of the validity of ToR by one year.*

**4. Consideration of New Proposals:**

**4.1 Environment and CRZ clearance for the all weather green field port at Nandgaon, Taluk-Palghar, Distt- Thane, Maharashtra by M/s JSW Infrastructure Ltd.(F.No.11-85/2011-IA-III).**

*The Committee decided to defer the project since the MCZMA recommendation is not provided by the proponent.*

#### **4.2 Environment and CRZ clearance for expansion of Port facility at Hazira, Surat, Gujarat by M/s Essar Bulk Terminal Ltd [F.No. 11-46-2011-IA-III]**

As presented by the Project proponent, the proposal involves expansion of the existing port facility of the Essar Bulk Terminals Limited (EBTL) on the Tapi estuary at Hazira. EBTL constructed a Deep Water Berth, a 6.2 km long and 8 m deep Navigational Channel with a Turning Circle of radius of 600 m to meet the increasing demand of Essar Steel which is being expanded and other Essar establishments. The Environmental Clearance for these developments was granted by the MoEF in September 2007. Subsequently, in December 2007 the MoEF gave EC for reclamation of 350 ha to accommodate back-up facilities by utilizing dredged material. Although the EC was granted for 350 ha reclamation, Essar could reclaim only 186 ha. Because of the shortfall in back-up area the expansion plan of the steel complex and other Essar establishments at Hazira would be severely hampered. It is, therefore, proposes to reclaim another intertidal area of 164 ha – the balance of the approved 350 ha. However, there is a mangrove patch to the south of the area already reclaimed. Hence, it is proposed to reclaim the area (164 ha) to the south of the mangrove patch.

In addition, it is proposed to expand the Port Terminal further by developing additional facilities such as (i) Reclamation of another 170 ha for storing fuel for ships, petroleum products and bulk chemicals such as glycols, paraffin, butanol etc. (ii) Extending channel from 6.2 to 17.6 km, deepening from 8 to 16 m and broadening from 180-230 to 300-350 m the Navigational Channel, (iii). Use of the dredged material for reclamation of 334 ha of the intertidal area. (iv) Utilization of the water front for Container and Break Bulk Berth (1100 m) for loading containerized and unit cargo; General Cargo Berth (700 m) for import of heavy machinery and evacuation of heavy fabricated cargo; Liquid Cargo Berth (500m) for petroleum products and chemicals ; Bulk Berth (700 m) for handling increased cargo throughput; Berths for offshore support vessels (500 m) for support to oil and gas prospecting operations; Dry Dock and Berth for Ship Repairs (700 m); Trestle Berth (600 m) connecting the reclamation already completed and the proposed to ensure free flow of seawater in the mangrove area. All berths will be provided with required topside equipment. Gantry Cranes will be fitted with enclosed hopper, covered discharge hood and water sprinkling system to reduce dust generation.

EBTL has an Oil Pollution Contingency Plan (OPCP) and Tier –I facilities which will be modified to include proposed expansion. EBTL has a Waste Management Plan that will be extended to the proposed expansion. Ships will not be allowed to dispose their garbage, solid and oily wastes while at berth and, if required, facilities for pickup of these wastes will be provided. The collected waste will be disposed as per the norms of the GPCB. It will be ensured that the deep-sea ships visiting the berths have onboard sewage treatment facility. The Port expansion will be on the reclamation area hence, there are no R&R issues. The total preliminary costing of the Port Expansion. The cost of the Project is estimated at Rs. 7050 Crores.

The project was considered by the EAC in its meeting held in August, 2011 and finalized ToRs including conduct of Public Hearing. Public Hearing was conducted on 12.07.2012 at Hazira. The major issues are employment, flood control etc.

The Gujarat Coastal Zone Management Authority has recommended the project vide letter No.ENV-10-2011-877-E dated 01.06.2013.

**During the discussion, the following points emerged.**

- (i) *As per the shore line change study done by NCSCM, site falls in stable Coast.*
- (ii) *Submit the details materials handled in dry dock, waste generated, quantity, quality and treatment details*
- (iii) *Submit the EMP in the tabular format*
- (iv) *Submit the details of the issues raised during the public hearing and the responses/ action plan*
- (v) *Submit the details of CSR activities/commitments along with the budgetary provision and time schedule .*
- (vi) *The transfer of bulks to the stock yards shall be through closed conveyors, Water sprinklers shall be provided at transfer points, stack yards and other areas prone to wind- blown.*
- (vii) *Natural drainage system shall be designed and maintained so that there is free flow to the existing mangroves. Mangrove plantation/protection in 500 ha of land shall be carried out in consultation with GEC/Forests Department , Government of Gujarat. Fortnightly inspection report of the mangrove and natural tidal flow condition shall be maintained and any obstruction to the flow shall be removed.*
- (viii) *There shall be no disposal of wastes in to the coastal areas without adequate treatment.*
- (ix) *All the construction , storage shall be as per the CRZ Notification, 2011.*
- (x) *All the conditions stipulated by GCZMA shall be complied with.*
- (xi) *Wind curtain shall be installed at the coal stock yard. Green Belt of atleast 20 m width and adequate height shall be developed around the all storage areas.*
- (xii) *Oil Contingency plan shall be put in place. Quantitative details with specifications of the required infrastructure shall be submitted to MoEF and the same shall be procured in addition to the training of personnel during the construction phase*

- (xiii) *Sensors for early detection of leakage propylene and butadiene shall be provided at berths along with water sprinklers.*
- (xiv) *Gas monitors with provision for alarms set at specific concentrations shall be installed at strategic locations on the berth and around storage tanks.*
- (xv) *On site Emergency Management plan shall be put*
- (xvi) *Proponent presented details of compliance of conditions of Environmental Clearance. Committee noted that the PP complied with the all conditions.*
- (xvii) *The mangroves area shall be protected and no reclamation / activity shall be carried out within 50 m of mangroves.*
- (xviii) *All the recommendation of the EMP, Risk Assessment and DMP shall be complied with letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO. The detailed design and elevation of the complete development shall consider the impact of cyclone, tsunami and other natural calamities including the safe and effective evacuation plan. This is very important considering the remoteness of the mainland from the reclamations. Advance warning system shall be in place.*
- (i) *The port shall ensure that the ship under operation follows the MARPOL convention regarding discharge or spillage of any toxic, hazardous or polluting material like ballast water, oily water or sludge, sewage, garbage etc. The emission of NOx and SOx shall remain within the permissible limits.*
- (xix) *The hazardous wastes generated shall be collected and disposed as per rules, disposal wastes shall be sent to authorized TSDF. MoU in this regard shall be submitted to the Ro, MoEF along with the six monthly monitoring report.*
- (xx) *The dredging materials shall be disposed at the site identified by CWPRS. It shall be disposed at depths 25 m or more upto fillup of 30 cm or less. Initial and final sounding records for depth of the disposal sites and GPS records shall be maintained for vessels carrying out disposal. The disposal shall be carried out in the ebb tides and shall be ensured that water quality of Tapy estuary mouth is not affected under no circumstances.*
- (xxi) *A separate Environment Monitoring cell shall be set up especially for this plant and details shall be submitted to the Ministry prior to the commencement of operation.*

***In view of the observations at (ii) to (iv), the committee decided to defer the proposal. The proposal shall be reconsidered after the above observations are addressed and submitted.***

**4.3 Environment and CRZ clearance for development of Jetty and associated facility along the bank of Hansthal Creek, Taluk Maliya, Dist. Rajkot, Gujarat by M/s Gujarat maritime Board (F.No.11-89/2012-IA.III)**

*The Committee decided to defer the project, since the EAC suggested for site visit.*

**4.4 Finalisation of ToR for Hazardous Waste Incinerator & Common Effluent Treatment Plan by M/s Mysore Eco-Technologies (F. No. 10-22/2013-IA.III)**

*The Committee decided to defer the project, since the Project proponent has not attended the meeting.*

**4.5 Finalisation of ToR for development of Integrated Common Hazardous Waste treatment, storage, disposal and recycling facilities at Mahui Mauza, Bhojpur, Bihar (10-6/2013-IA.III)**

As presented by the Project proponent, the proposal was rejected by the EAC in its meeting held in November, 2012 since the site is close –about 200 m from the river. Proponent clarified that the site was visited and the data submitted earlier regarding the location with respect to habitation and river wrong hence submitted fresh proposal. The site is about 1.0 km from river, and 0.6 km from high flood line. The habitation is about 600 m.

As presented by the project proponent, the proposal involves development of Integrated Common Hazardous Waste Treatment, Storage, Disposal and Recycling Facilities at Chandrapur, Bihar. M/s Ramky Enviro Engineers Ltd, Hyderabad, India as a promoter for setting up of Integrated Common Hazardous Waste Treatment, Storage, Disposal and Recycling Facilities with an investment of Rs.248.67 Crores. Proposed project activities consists of Collection, transportation, reception, treatment, storage, re-use, recycle, blending and disposal of industrial hazardous wastes, bio-medical waste, Spent Solvent Recycling, Used oil recycling, Alternate Fuel & Raw Material Facility, Used Lead Acid Batteries, Waste plastic & paper recycling and E-Waste generated in the state of Bihar.

The quantity of waste generated from Industrial Area. The quantities of hazardous wastes generated estimated to be about 50,000 TPA (expected to be received at the facility).

The proposed project falls in Project Activity 7 (d) - Common hazardous waste treatment, storage and disposal facilities (TSDFs). The proposed project falls in Category 'A', All Integrated facilities having incineration & landfill or Incineration alone. 52.74 acres land at Plot no: 401, Khata No: 69, Thana no: 107, Mahui Mauza, Koilwa-Babura Road near Chandrapur Village, Distt: Bhojpur, Bihar has been procured by M/s. Ramky Enviro Engineers Ltd. The total power required for the proposed project is 1500KVA will be taken from Power Development Department, Bihar. The total water required is 25 KLD will be met through Ground Water Source.

The total waste reaching the integrated waste management facility from Hazardous waste facility accounting to 12 cum/day will be collected and recycled and phase wise treatment is as follows.

**Phase-I**

Secured Landfill	: 25000TPA
Treatment/ Stabilization	15000 TPA
Bio Medical Waste	: 30000 BEDS
E- Waste	: 30000 TPA

**Phase-II**

Spent Solvent Recycling	: 10000 KL
Incineration	20000 TPA
Used oil recycling	10000 KL
Alternate Fuel & Raw Material Facility	: 10000 TPA
Used Lead Acid Batteries	: 24000 TPA
Waste plastic recycling	10000 TPA
Waste paper recycling	10000 TPA

**Phase-III**

Renewable Energy	2 MW
Waste to Energy	2 MW

**During the discussions, the Committee finalized the following additional TOR for further study:**

- (i) *Submit the justification of the Project. Project components and capacities shall be submitted.*
- (ii) *Submit the details of site selection criteria - CPCB guidelines along with the various sites examined based.*
- (iii) *Site lay out plan clearly showing various units, green belt, laboratory, roads, vehicle parking, office building etc to be shall be submitted. Latitude and longitude for the site shall be submitted.*
- (iv) *Submit the details of the compliance with respect to the provisions of Hazardous Wastes (Management, Handling and Trans-boundary movement)) Rules, 2008 including collection and transportation, design etc. All the applicable rules shall be listed and mitigation plan to comply the applicable rules shall be submitted in detail.*
- (v) *Action plan and infrastructure required to comply the PROTOCOL as prepared by CPCB for performance evaluation and monitoring of TSDF.*
- (vi) *Submit the details of the waste generated, present mode of disposal as per the State PCB authorization etc.*

- (vii) *Submit the MoU made between member units along with responsibilities.*
- (viii) *Examine the details of monitoring of Dioxin and Furan.*
- (ix) *Submit a copy of MoU for disposal of ash through the TSDF.*
- (x) *Submit the details of Air Pollution Control Measures.*
- (xi) *Environmental Management Plan should be accompanied with Environmental Monitoring Plan and environmental cost and benefit assessment. Regular monitoring shall be carried out for odour control.*
- (xii) *Water quality around the landfill site shall be monitored regularly to examine the impact on the ground water.*
- (xiii) *Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster*
- (xiv) *Submit the details of green belt*

**Public hearing to be conducted for the project as per provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan.**

**A detailed draft EIA/EMP report should be prepared as per the above additional TOR and should be submitted to the Ministry as per the Notification.**

**4.6 Finalisation of ToRs for construction of Ropeway from S.T.P. Sanjauli, Malyana to H.P.SEB store Malyana M/s IPH Division No.II, Shimla.(F.No.10-21/2013-IA.III)**

*The Committee recommended to defer the project since the proponent did not circulate the documents to members.*

**4.7 Finalisation of ToR for Bandapur Industrial Area (Chopanki Extension) in District Alwar, Rajasthan. M/s RIICO (F.No.21-4/2013-IA.III)**

As presented by the project proponent, the project involves development of Bandapur Industrial area (Chopanki Extension) in District Alwar, Rajasthan. The total plot area is 75.37 ha. A total of 256 industrial plots will be developed along with commercial plots for services. Out of total project area of 78.40 ha, 32.50% land is private land and remaining 67.10 % land is government land. No production and/or manufacturing process is involved in the industrial area development activity to be carried out by RIICO. RIICO will only develop the industrial, commercial, infrastructure plots along with road, drainage, water supply, power supply, street lighting, and rainwater harvesting arrangements at site. Approximately 25-30 kg of municipal

solid waste will be generated from the construction camp and construction site. This will be collected and disposed off in a fenced pit dugout at the site and covered properly after completion of construction activity. Septic tanks with soak pits will be constructed for sewage disposal to avoid any contamination of ground water, soil or surface water. The total water requirement is approx 200 KLD including 45 KLD domestic water requirements. 18.911 ha land allotted for development of roads which is 25.10% of the total plot area. During operational phase, wastewater generated would be treated by individual industries and the treated water shall be used by them in their respective green area. There will be no treated effluent discharge outside the industrial area and the industrial area will function as “Zero Discharge” The water requirement during operational phase will be 1000 gallons/day per acre and met thro. ugh ground water abstraction. The power requirement during operational phase will be approx 2 MVA which will be provided by JVVNL. The estimated cost of the project is Rs. 58.01 crores.

The project falls within the Seismic Zone IV as per the Seismic Zone Map of India. Haryana State Border is about 3.55 km away from the project, hence, the project is treated as Category ‘A’.

**During the discussions, the Committee finalized the following additional TOR for further study:**

- (i) *Submit the site selection details along with the alternative sites considered.*
- (ii) *Submit the developments around the site along with the land use details*
- (iii) *It is noted the ground water classification of the area is critical, hence NOC/ in principal approval from Ground water Authority is required prior to finalization of ToR.*
- (iv) *Submit the revised area break up, layout incorporating green belt areas*
- (v) *Quantitative and qualitative of wastes generation should be examined and submit details along with the norms for assessment.*
- (vi) *Submit the certified maps specifying Survey Nos / plot nos etc of the SEZ area with Notification as notified by the Ministry of Commerce.*
- (vii) *Submit details of the land – how much area has been notified and how much is transferred. Any other area acquired or proposed to be acquired with certified maps.*
- (viii) *The environmental monitoring plan and management plan with cost and parameters both for construction and operation*
- (ix) *Examine and submit details of potentially polluting industries likely to come within the complex which may impact on the area. Examine and submit details.*
- (x) *Make assessment of any regulatory measure in view of the environmental and social impacts of the project (such as unauthorized development around the park).*

- (xi) *Detailed drainage plan linked with the existing drainage system with capacities.*
- (xii) *Examine and submit details of alternatives considered and justification of selection of the present site.*
- (xiii) *Examine the baseline environmental data, including wind rose diagram, air quality and biodiversity.*
- (xiv) *Identify the TSDF/BMW/E-waste generation and management agencies and destinations of their disposal.*
- (xv) *Baseline linked to Environmental monitoring; during construction and operation should be examined.*
- (xvi) *Open spaces and space for services appear inadequate; re-examine and submit details.*
- (xvii) *Zoning of industries should be done for environmental planning. Adopt the concept of industrial ecology.*
- (xviii) *The planning of the complex should have Hierarchy of roads, their widths and rights of way based on traffic volume density*
- (xix) *Examine and submit details of hydrological and geo-hydrological studies*
- (xx) *Submit strategy and procedural safeguards for energy conservation and use of energy from renewable sources.*
- (xxi) *Consider bio-methanation of biodegradable wastes and submit details.*

**Public hearing to be conducted for the project as per provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan.**

**A detailed draft EIA/EMP report should be prepared as per the above additional TOR and should be submitted to the Ministry as per the Notification.**

**4.8 Finalisation of ToR for special investment region at Santalpur & Radhanpura Taluka District-Patan. M/s Gujarat Industrial Development Corporation. (F.No.21-43/2012-IA.III)**

*Committee noted that the proposal appears to be planning of vast region without taking possession of the land. The Committee recommended to defer the project and suggested the proponent to submit a basic note on the concept of special investment region, details of*

*activities, responsibilities of the developers, provisions of the EIA Notification, 2006 w.r.t. requirement of EC etc so as to decide the applicability of EIA Notification, 2006.*

#### **4.9 Discussion on the site visit report of Sub- Committee on the 11 Beach resorts in Thane, Maharashtra**

The sub committee comprising of Dr. Apurba Gupta and Shri M.L. Sharma presented the report of its site visit conducted in March, 2013.

The proposal for CRZ clearance to the 11 hotels/beach resorts was discussed along with the report of Sub Committee of EAC. It came out that the earlier recommendation with respect to these proposals was made by MCZMA during 2009. However, in the meanwhile, new CRZ Notification has come into force in January, 2011. Also noted that all the project proposals are located within the rural villages hence the approval for change of land use and carrying out such activity from the appropriate authorities are required.

*The EAC, therefore, recommended to send back all the proposals to MCZMA to reexamine and submit fresh recommendation as per the CRZ Notification, 2011 and the guidelines prescribed for hotels/beach resorts under Annexure-III of the Notification. Also suggested the proponent to submit the approval for change of land use and carrying out such activity from the appropriate authorities.*

#### **4.10 CRZ clearance for 52 Projects of Kharland Scheme- Kharland Development Circle, Govt. of Maharashtra (F.No.11-24/2013-IA.III)**

*Committee recommended to defer the project since the proponent did not circulate the documents and was also not having CRZ map.*

#### **4.11 CRZ clearance for laying of pipeline from Paradip Refinery to South Jetty at Paradip Port. M/s Indian Oil Corporation Limited (11-33/2013-IA.III)**

As presented by the project proponent, the project is for laying of pipeline from Paradeep Refinery to South Jetty at Paradeep Port, Odisha. The proposed project is to lay 14 pipeline from south jetty to refinery at Paradip which involves one (1) crude oil line, 8 product lines and 3 utility lines with a provision of 2 future line. The total area of the project is 1,96,279 sqm. The basic objective of the project is to cater the growing requirement of petroleum products to Odisha and the laying of pipeline for transportation of the petroleum product is cost effective and environmental friendly. The detail site plan of the pipeline route (approx. 8 km) has been carefully selected to minimize total length and avoidance of forest area and habitations to the extent possible. Beside the CRZ area, the pipeline crossing involves Santara creek. There will be no industrial waste from the project. The construction work will involve only trenching. Pipelines will be welded and laid inside the trenches and back filled and restored. Santara creek

shall be crossed at one place only by open cut method and will be later restored. The estimated cost of the project is Rs. 60 crores.

The project falls under CRZ-I (b), CRZ-III and CRZ-IV and at 2 points pipeline is passing through HTL as to bypass the habitation.

**During the discussion, the following points emerged**

- (i) *The corridor passes through revenue forest of about 5.928 ha, proponent has obtained Stage-I FC. All the conditions of FC clearance including compensatory afforestation, conservation of Olive Ridely Turtle.*
- (ii) *The laying of pipeline at creek shall be carried out such a way that it shall not obstruct tidal flow of the creek.*
- (iii) *All the conditions stipulated by Odisha CZMA shall be complied with.*
- (iv) *Laying pipe line shall not be carried out during the breeding of olive Ridely turtle. PP shall submit undertaking.*
- (v) *The smooth and safe operation of the system shall be ensured by incorporating a computerized SCADA (Supervisory Control And Data Automation) system. Any leakage in the pipeline shall be immediately detected by the Computer system and product pumping shall be immediately cut off.*
- (vi) *All the recommendation of the EMP shall be complied with letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO.*

***The Committee recommended the proposal for CRZ Clearance after receipt of the undertaking at (iv) above with the above condition in the Clearance letter for strict compliance by the project proponent.***

**4.12 Environment Clearance for the development of Municipal Solid Waste Processing & Disposal Facility at Shishambada, Vikasnagar, Dehradun. by M/s Nagar Nigam, Dehradun(F.No. 10-62/2011-IA.III)**

The proposal was considered by the EAC in its meeting held in December, 2012 and recommended for rejection of the project since the site is very close to river and suggested to identify an alternate site away from the river. PP submitted NOC from Irrigation Department dated 6.04.2013. As per the NOC, the site is 400 m from the river and is not in the flood prone area. PP also submitted minutes of the Supreme Court Monitoring Committee dated 08.03.2013. The SCMC recommended in view of the fact that the topography of Doon Valley is such that it forms the catchment of some rivulet or the other which are by and large seasonal and it would not be possible to find alternative site for the purpose.

***During the discussion, the following points emerged:***

- (i) The waste lying at the existing dumping site shall be excavated and should be accumulated to designated place within the site and this accumulated waste shall be compacted and closed scientifically after reaching the design height.*
- (ii) PP shall develop green belt of minimum 20 m width all along boundary and at least 30 m away from the river HFL. The setup shall be constructed atleast 3 m above the HFL of the river*
- (iii) PP shall develop green belt of 20 m all along boundary and at least 30 m on the river side.*
- (iv) The connectivity road to the side shall be IRC guidelines.*
- (v) Periodical ground water/soil monitoring to check the contamination in and around the site shall be carried out.*
- (vi) The waste is proposed to be transported through the village roads, the roads shall be properly widened or proper road for transportation shall be provided. Details shall be incorporated in the EMP.*
- (vii) The proponent shall ensure that the project fulfills all the provisions of Hazardous Wastes (Management, Handling and Trans-boundary movement)) Rules, 2008 including collection and transportation. design etc*
- (viii) The gas generated from the Landfill facility shall be collected and disposed as per rules*
- (ix) The Leachate from the facility shall be collected and treated to meet the prescribed standards before disposal.*
- (x) The proponent shall obtain necessary clearance from the Ground Water Authority for the use of ground water.*
- (xi) The depth of the land fill site shall be decided based on the ground water table at the site.*
- (xii) An On Site Emergency Management Plan shall be prepared and implemented.*

***The Committee recommended the proposal for Environment Clearance with the above condition in the Clearance letter for strict compliance by the project proponent.***

**4.13 Environment clearance for widening and improvement of existing 2 lane to 4 lane in the Obedullahaganj-Hoshangabad-Itarasi-Betul Section of NH-69 in MP (F.No.10-69/2010-IA.III)**

The proposal was considered by the EAC in its meeting held in August, 2012 and recommended the project. However, while processing the project Ministry sought the details on trees (39,000) required to be cut for the project and blasting. PP submitted details of trees. The blasting will be at three location viz.i) 22.000 -24.000, the habitation is beyond 3.5 km, ii) 64.000 – 66.000, the habitation is 6km, iii)112.000-112.500, habitation is 10 km.

***During the discussion, the following points emerged:***

- (i) It is indicated that 39000 nos. trees are lying in RoW, however bare minimum trees to be cut, the information should be provided about their species and whether it also involved any protected or endangered species. Necessary green belt shall be provided on both side of the highway with proper central verge and cost provision should be made for regular maintenance. Efforts should be made to reduce the tree cutting to 5-10 % in non – forests areas by paying compensation for the tree in private land out of the project cost*
- (ii) As proposed by NHAI, the blasting shall be restricted only for 8 days with restricted time from 8 am to 6 pm subject to the following condition:*
- (iii)NHAI shall intimate the local authority before carrying out the blasting.*
- (iv)All other required clearances for carrying out blasting shall be obtained from the competent Authority.*
- (v) The technique adopted for controlled blasting at identified locations is non-electric detonating technique.*

***The Committee recommended the proposal for Environment Clearance with the above condition in the Clearance letter for strict compliance by the project proponent.***

**4.14 Environment Clearance for widening & rehabilitation of existing 2 lane to 4 lane of Rajasamand to Bhilwara Section of NH-758 (from Km 0.000 to 87. 500) in the State of Rajasthan. (F.No.10-45/2012-IA.III)**

As presented by the project proponent, the proposal involves widening & rehabilitation of existing 2 lane to 4 lane of Rajasamand to Bhilwara section of NH-758 in the State of Rajasthan. The project road starts from Rajsamand at Km. 0.000 at NH- 08 at Kakroli junction and ends at Bhilwara at Km 86.550 at NH-758 junction of NH-79 Flyover, Total existing length of the project road is 86.550 Km. The proposed starting point is Rajsamand at Km 0.000 and end point is Km 87.250 at Bhilwara. The total proposed length of the project road is 87.250 Km. Predominantly the road is passing through plain terrain. The land use pattern of the project area is Agriculture, Built-up, Government & Barren. Project Road passes through Piprada, Salempura, Jawad, Ghoinda, Bhawa, Madri, Kuanrian, Phiyari, Khandel, Lapsaya, Potlan,

Sahada, Gangapur, Bhunas, Karoi, Gurla, Manjuras, Pur settlements of various sizes. The Project Road does not pass through any National Park / Sanctuary / Wild Life Area. The existing right of way is varies from 15 to 30 m on an average. The proposed right of way is 60 m throughout. Total 296.052 Ha of land is proposed to be acquired for the improvement of the project, out of which Bypasses is 85.644 Ha., realignments is 32.970 Ha., Widening is Ha.173.830, Toll plaza Ha 3.608. No Forest land is required for diversion for widening of the project road. 1 major bridge, 14 Minor bridges, 135 Slab / box culverts, 82 pipe culverts & No Toll Plaza are in the existing road. 1 major bridges, 15 Minor bridges, 47 pipe culverts & 208 Slab / Box culverts, 3 vehicular underpass, 6 pedestrian underpasses, 1 ROBs, 40 Bus shelters, 2 Toll Plaza has been proposed. Service / Slip road of 12.452 km have been proposed along the project road at 9 locations. 4 Bypasses for Kunwaria (2.450 Km.), Potlan (2.550 Km.), Karoi (3.600 Km.) & Pur (6.920 Km) and 9 major realignments for a total length of 6.189 Km at Ghoinda, Rajsamand, Kunwaria, Gaumata Chauraha, Bhunash, Ganeshpura and 3 minor realignments for a total length of 0.856 Km at Gudla, Shivnagar Colony, Somnath Chauraha are proposed.

Total 147.67 KLD water shall be required for construction and other purposes. There is no provision of Fly Ash as there are no Thermal power plants. Ranjeet Sagar Lake & Rajsamand Lake / Waterbody near existing project road have been avoided by design modifications. There are a few manmade water-bodies along the road stretch. Approx 5794 trees are affected due to proposed road, against which avenue plantation along the road side is proposed apart from the statutory requirement. There would be about 149 project affected families due to the improvement of project road. The entitled person shall be compensated according to the provision of NH Act 1956. The environmental management cost is Rs. 16.791 crores. The total civil construction cost for the project is 550.81 crores while the total project cost is Rs. 971.53 crores

The project was considered in EAC meeting held in June, 2012 and finalized ToR including conduct of Public Hearing. Public Hearing conducted on 21.02.2013 at Kunwaria, Rajsamand and 22.02.2013 at Karoi, Dhilwara. Major issues are providing by pass/ under pass near School, Kunwaria. The responses submitted and presented by the proponent were examined by the Committee.

**During the discussion, the following points emerged:**

- (i) As committed during Public Hearing, under pass shall be provided near School at Kunwaria, Rajsamand.*
- (ii) In chainage 74.700-74.900, retaining wall shall be constructed as committed to protect the water body. The drainage to the water body shall be blocked during the construction.*
- (iii)The project road is not passing/ falling with 10 km through any eco- sensitive area.*
- (iv)The project does not involve any diversion of forests*

- (v) *It is indicated that 19203 nos. trees to be cut. Necessary permission from competent authority shall be obtained for tree cutting. Necessary compensatory plantation shall be carried out and cost provision should be made for regular maintenance.*
- (vi) *Explore the possibilities of using cold mix technology wherever possible particularly near wildlife sanctuary.*
- (vii) *Rain water harvesting including oil and grease trap shall be provided. Water harvesting structures shall be located at every 500 mts along the road. Vertical drain type rainwater harvesting structures shall be set up to minimize surface runoff losses of rainwater.*
- (viii) *R&R shall be as per the guidelines of State/Central Government.*
- (ix) *IRC guidelines shall be followed for widening & up-gradation of road.*
- (x) *The responses/commitments made during public hearing shall be complied with letter and spirit.*
- (xi) *All the recommendation of the EMP shall be complied with letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO.*

***The Committee recommended the proposal for Environmental Clearance with the above condition in the Clearance letter for strict compliance by the project proponent***

#### **4.15 Environment clearance for rehabilitation and upgrading to 2 lane / 2 lane with paved shoulder and strengthening of Fathua – Harnaut – Barh section (F.No. 10-87/2011-IA.III)**

The project road (NH-30 A) starts at Fathua at km 0.00 and ends at Barh km 69.600 .The Total length of Project road is 69.600 km. The project road passes through plain terrain and it passes through 2 districts Patna and Nalanda and 81 villages. The Land use pattern along the road is mixed type that includes agricultural, vacant and interspersed built-up area. The existing RoW is 10.85 m to 37 m, except between 0.2 km to 0.6 km, where it is 60 to 70 m. The proposed RoW is 24 m to 70 m. There is no Wildlife Sanctuary/National park within 10 km radius. Total land proposed to be acquired is 33.253 Ha, which include Govt. Land 1.603 Ha, Private Land 31.65 Ha. The project road involves 3 Nos. bypasses -Daniawan Bypass 2.04 km, Harnaut Bypass 3.54 km and Barh Bypass 3.55 km. There are 12 existing major bridges carriageway width varying from 6.6 m to 11.2 m. Proposed major bridges are 12 (5 retained, 7 reconstruction). There are 26 existing minor bridges. The proposed minor bridges are 27 (8 to be retained, 17 to be reconstructed, 1 to be widened and 1 additional). There are 157 existing culverts and 186 numbers of culverts have been proposed. (Retained 46, Retained with widening 31, Reconstruction 69-2\*, Abandoned 11 and Additional 14 + (28 on bypasses). 16 bus bays and 4 truck lay bye have been proposed in the project road. Water required during the construction phase is 350 KLD for about 400 days (intermittently spread over 600 days). 330 KLD water

shall be drawn from Streams along the project road. 20 KLD water for domestic use/drinking purpose shall be obtained from ground water sources spread over whole stretch. 9,25,737 cum of Aggregates, 81222 cum of sand, 65333 MT of cement, 10,626 MT of bitumen, 9960 MT of steel and 1068,000 litres of diesel will be required for the construction of the project road. 4,18,000 cum of fly ash proposed to be used from Barauni Thermal Power plant Kahalgaon near Barh.

1805 nos trees are proposed to be felled for the proposed widening activity. The avenue plantation shall be carried out as per IRC-SP-21:2009 apart from statutory requirement. There are 136 partially affected structures and 47 Common property resources including 07 Temples, 03 Government buildings, 01 School, 20 well and 16 hand pumps. Total civil cost of project is 478.6 Crores. Estimated Environmental Cost is 83 lakhs and R&R cost is 42.07 Crores.

The project was considered in EAC meeting held in October, 2011 and finalized ToR including conduct of Public Hearing. Public Hearing conducted on 05.04.2013 at Nalanda district and on 06.04.2013 at Patna District. Major issues are Compensatory plantation, employment and land acquisition. The responses submitted and presented by the proponent were examined by the Committee.

**During the discussion, the following points emerged:**

- (i) *The project road is not passing/ falling with 10 km through any eco- sensitive area.*
- (ii) *The project indicates involvement of 30.734 ha protected forests. Necessary stage –I forestry clearance shall be obtained.*
- (iii) *It is indicated that 1805 nos. trees to be cut. Necessary permission from competent authority shall be obtained for tree cutting. Necessary compensatory plantation shall be carried out and cost provision should be made for regular maintenance.*
- (iv) *Explore the possibilities of using cold mix technology wherever possible particularly near wildlife sanctuary.*
- (v) *Rain water harvesting including oil and grease trap shall be provided. Water harvesting structures shall be located at every 500 mts along the road. Vertical drain type rainwater harvesting structures shall be set up to minimize surface runoff losses of rainwater.*
- (vi) *R&R shall be as per the guidelines of State/Central Government.*
- (vii) *IRC guidelines shall be followed for widening & up-gradation of road.*

- (viii) *The responses/commitments made during public hearing shall be complied with letter and spirit.*
- (ix) *All the recommendation of the EMP shall be complied with letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO.*

***The Committee recommended the proposal for Environmental Clearance with the above condition in the Clearance letter for strict compliance by the project proponent***

**4.16 Environment clearance for rehabilitation and upgrading to 2 lane / 2 lane with paved shoulder and strengthening of Birpur –Bihpur section of NH-106 (Km.-0 to km –136 in the State of Bihar (F.No. 10-88/2011-IA.III).**

The project road (NH-106) starts at Birpur at km 0.000 and ends at Udakishanganj at km 106.000. Total length of project road is 106 km. The project road passes through plain terrain and It passes through 3 districts namely Supaul, Saharsa and Madhepura and 71 villages. The Land use pattern of the project influence area is mixed type that includes agricultural, vacant and interspersed built-up area. The existing ROW varies in between 8 – 24 m. The proposed ROW is 20-24 m. There is no Wildlife Sanctuary/National park within 10 km radius.

Total land acquisition is 147.5288 ha which includes Govt. Land - 3.7552 ha., Private Land 16.5736 ha including 127.20 ha protected forest land (road side plantation). The proposal for diversion of 127.20 ha forest land is submitted. The project road does not involve any bypass, however there are five minor realignments at km 11, Km 33, km 44, km 64 & km 88 to improve accident prone sharp curves. There are 3 existing major bridges and 24 minor bridges. Total proposed major bridges are 5 (2 retained, reconstruction and additional 2) and proposed minor bridges are 28 (5 to be retained, 4 to be newly constructed, and 13 to be reconstructed and 6 minor bridges on realignments). There are 66 existing culverts. 252 numbers of culverts have been proposed. (Retained 1, replace - 27, widen 36 and additional 188). There are 8 major intersections and 233 minor intersections (Village roads crossing or connection project road) along the whole project stretch. 10 bus bays and 01 truck lay bye has been proposed in the project road.

Water required during the construction phase is 380 KLD for about 400 days (intermittently spread over 600 days). 360 KLD water shall be drawn from Streams along the project road and 20 KLD water for domestic use/drinking purpose shall be obtained from ground water sources spread over whole stretch. It is a safe area. 6,90,000 tons of Aggregates, 25000 mt of sand, 70,200 tons of cement, 10,200 tons of bitumen, 15,000 tons of cement and 12,93,496 litres of diesel will be required for the construction of the project road. 2350 cum of fly ash proposed to be used from Kahalgaon Super Thermal Power Kahalgaon in Bhagalpur. 9024 nos trees are proposed to be felled for the proposed widening activity. The avenue plantation shall be carried out as per IRC-SP-21:2009 apart

from statutory requirement. There are 302 partially affected structures and 17 community properties including 09 Temples, 07 Government buildings, 01 School and 138 hand pumps.

Total civil cost of project is 498.6 Crore. Estimated Environmental Cost is 2.84 Crore and R&R cost is about 82.04 Crore.

The project was considered in EAC meeting held in October, 2011 and finalized ToR including conduct of Public Hearing. Public Hearing conducted on 11.04.2013 at Madhepura, on 12.04.2013 at Saharsa and on 13.04.2013 at Raghapur. In General public supported the project.

**During the discussion, the following points emerged:**

- (i) *The project road is not passing/ falling with 10 km through any eco- sensitive area.*
- (ii) *The project indicates involvement of 127.20 ha protected forests. Necessary stage –I forestry clearance shall be obtained.*
- (iii) *It is indicated that 9024 nos. trees to be cut. Necessary permission from competent authority shall be obtained for tree cutting. Necessary compensatory plantation shall be carried out and cost provision should be made for regular maintenance.*
- (iv) *Explore the possibilities of using cold mix technology wherever possible particularly near wildlife sanctuary.*
- (v) *Rain water harvesting including oil and grease trap shall be provided. Water harvesting structures shall be located at every 500 mts along the road. Vertical drain type rainwater harvesting structures shall be set up to minimize surface runoff losses of rainwater.*
- (vi) *R&R shall be as per the guidelines of State/Central Government.*
- (vii) *IRC guidelines shall be followed for widening & up-gradation of road.*
- (viii) *The responses/commitments made during public hearing shall be complied with letter and spirit.*
- (ix) *All the recommendation of the EMP shall be complied with letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO.*

*The Committee recommended the proposal for Environmental Clearance with the above condition in the Clearance letter for strict compliance by the project proponent*

**4.17 Environment clearance for Six laning of Allahabad bypass-varanasi section of NH-2 from 713.146(Handia) to km 785.859(km 72) in the state of Uttar Pradesh (F. No.10-98/2011-IA.III)**

The project was considered in EAC meeting held in October, 2011 and finalized ToR including conduct of Public Hearing. PP has deleted by pass hence there is no land acquisition . The complete road widening is within existing RoW. The Committee noted that since there is no land acquisition and additional RoW hence, the project does not attract EIA Notification, 2006.

**4.18 Environment clearance for upgradation of existing carriageway to 4/6 lanning of Hubli- Hospet section of NH-63 in the State of Karnataka by M/s NHAI [F.No. 10-44/2011-IA-III]**

Project road starts at Dharwad at km 132+000 (Design Chainage km 129+249) and ends at Hospet at km 267+000 (Design Chainage km 270+945). Total length of existing road is 135 km and the right of way (ROW) varies from 15 to 45 m. Design length of the road is 143.290 km and the proposed ROW is 60m. Design speed is 100 kmph. The project road is part of NH-63 starting at Ankola on NH 17 in Karnataka and ending at Gooty on NH 7 in Andhra Pradesh. It connects western part of Andhra Pradesh and northern districts of Karnataka with western coast of India and gives connectivity for these areas to Karwar Port through NH 17. Project road traverses in 3 districts (Dharwad, Gadag and Koppal), 6 Taluks, 50 revenue villages and 12 towns. The project road is not located in whole or in part within 10 km from the boundary of: (i) Protected Areas notified under the Wild Life (Protection) Act, 1972, (ii) Critically Polluted areas as identified by the Central Pollution Control Board (iii) Notified Eco-sensitive areas, (iv) inter-State boundaries and international boundaries. The Project Road doesn't require diversion of any forest land. Sri Manikeshwara Temple, at Lakkundi Village, is a protected monument by ASI is present in regulated area and is 144.6m from the proposed project alignment. Application for the same has been submitted and obtaining permission is awaited. Total 473.02 Ha of land is proposed to be acquired for the project. About 5187 trees are to be felled for the project road, against which about 15561 trees are proposed to be planted. Bypasses are proposed at six locations, as given below.

- Hubli bypass is proposed from existing km 129+249 to km 142+740 and design length is 15.085 km.
- Annigeri bypass is proposed from existing km 169+822 to km172+050 and design length is 2.350 km.
- Gadag bypass is proposed from existing km 186+989 to km 193+493 and design length is 6.670 km.
- Advai Sompura bypass is proposed from existing km 194+634 to km196+272 and design length is 1.550 km.
- Lakkundi bypass is proposed from existing km 200+514 to km 203+134 and design length is 2.600 km.

- Koppal bypass is proposed from existing km 246+940 to km 255+947 and design length is 12.900 km.

Total length of existing road bypassed is 35.488 km and total length of bypasses is 41.155 km. total increase in road length due to bypass is 5.667 km. Two realignments are proposed from existing km 165+903 to km 167+870 and from km 174+391 to km 175+071. There are 41 bridges existing along the project road in which 13 bridges are bypassed. Remaining bridges are widened / reconstructed. Additional 23 new four lane bridges are proposed. Total 123 culverts are there in the existing road. Out of these 34 culverts are bypassed. Remaining 123 culverts are widened /reconstructed. 223 new culverts are proposed along the project stretch. One ROB and is proposed at Hubli Bypass. 12 major junctions and 159 minor junctions are proposed for improvement. Bus bays are proposed at 26 locations. Service roads are proposed for 19.250 Km. 437 buildings are to be cleared. The affected structures would be compensated as per NH Act. R&R cost for the project is Rs. 135.92 Crores and utility shifting cost is Rs. 5.7 Crores. Cost of construction for the project road is Rs. 1087.61 Crores. Environmental management cost is 11.278 crores. Raw material required for the project are Aggregates – 4942058.3 T, Sand – 147161.6T, Soil - 510590.0m<sup>3</sup>, Steel – 8418 T, Cement – 76431.2T, Bitumen – 43832.7 T, Diesel – 15080753.1 T, Water – 415 m<sup>3</sup>/d.

The project was considered in EAC meeting held in July, 2011 and finalized ToR including conduct of Public Hearing. Public Hearing conducted on 09.01.2013 at Hubli, Dharward. Major issues are rehabilitation, bypass near school etc. The responses submitted and presented by the proponent were examined by the Committee.

**During the discussion, the following points emerged:**

- (i) *In view of the concerns raised in the PH, at Chainage 228 underpass/ overpass is not warranted as per IRC , road intersection shall be improved for providing pedestrian safety, traffic island, geometric design consideration as per IRC guidelines.*
- (ii) *The project road is not passing/ falling with 10 km through any eco- sensitive area. The road falls about 92 m- Prohibited areas i.e 100 m from Sri Manikeshwara Temple at Lakkundi Village, a protected monument by ASI. PP proposed to shift to about 145 m within 'Regulated areas'- i.e 100 -300 m from monument and applied for NOC. NOC shall be obtained from ASI.*
- (iii) *The project do not involve any forests land .*
- (iv) *It is indicated that 5187 nos. trees to be cut. Necessary permission from competent authority shall be obtained for tree cutting. Necessary compensatory plantation shall be carried out and cost provision should be made for regular maintenance.*
- (v) *Explore the possibilities of using cold mix technology wherever possible particularly near wildlife sanctuary.*

- (vi) *Rain water harvesting including oil and grease trap shall be provided. Water harvesting structures shall be located at every 500 mts along the road. Vertical drain type rainwater harvesting structures shall be set up to minimize surface runoff losses of rainwater.*
- (vii) *R&R shall be as per the guidelines of State/Central Government.*
- (viii) *IRC guidelines shall be followed for widening & up-gradation of road.*
- (ix) *The responses/commitments made during public hearing shall be complied with letter and spirit.*
- (x) *All the recommendation of the EMP shall be complied with letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO.*

**The Committee recommended the proposal for Environmental Clearance with the above condition in the Clearance letter for strict compliance by the project proponent**

**4.19 Environment clearance for 2 lane/2-lane with paved shoulder configuration of Pundibari-Baxirhat (WB/Assam Border) Section of NH-31 in the State of WB (F.No.10-15/2011-IA.III)**

The existing project road starts from Pundibari at existing Km 770.000 of NH-31 and terminates in Baxirhat (border of West Bengal/Assam) at Km 816.000 in Cooch Behar district. The existing length is 46 km. The proposed project road starts from km 770.850 in Pundibari and terminates in Baxirhat at km 815.435. The proposed length of the road is 44.586 km. The road traverses through plain terrain. There are 43 villages along the project road. The existing RoW varies from 24 m to 150 m. The widening will be done within the existing RoW except for toll plaza and truck lay-bay where PROW is 63 m. The additional RoW of 18m is proposed for a length of 300 m from km 800.950 to km 801.25 at toll plaza and 200 m from km 795.9 to km 796.1 at truck lay bye. The project road is an improvement from existing carriageway to 2-lane with paved shoulder within the existing RoW. Four lane is proposed from km 814.435 – 815.435. Service road of 5.5 m width has been proposed from km 783.550 – 784.450 and Km 814.435 – 815.435 for a length of 1.9 km. All these improvements shall be within the existing RoW. Proposed 2-lane configuration is with 7m CW, 1.5 m paved shoulders and 1m earthen shoulder. Proposed 4-lane configuration of road is with 15.00m CW and 2.00m raised footpath on either side. The project road does not pass through or fall within 10 km of any protected/ notified areas. The land use pattern of the project area is mainly agricultural land (74%) followed by settlements (19.9%), rivers (3.1%), industries (1%), ponds (1.05%). Total land acquisition is 1.61 Hectare in toll plaza and truck lay bye locations. It does not involve diversion of any forestland.

There are existing 3 major bridges, 5 minor bridge, 1 vented causeway and 2 RoBs. Proposed are 1 RoB at km 783.955, replacement of 3 minor bridges at km 794.590, km 796.215 & km 805.000, 1 toll plaza at km 801.100, 1 truck lay bye at km 796.00, 1 truck parking and

Way side Amenity and 2 bus bays and bus shelter. There are around 378 trees to be affected. Main species are Simul, Jarul, Siris, Arjuna and Sal. There are 7 streams crossing the project road and 118 stagnant water bodies out of which only 13 are likely to get affected by <15%. Total water requirement will be 650 KLD. 78,380 cum of earthwork is involved and 9 borrow area locations have been identified. There is no Thermal Power Plant located within 100 km radius of Project road and so there is no provision for use of flyash. Aggregate requirement of 5.36 lakh MT and Sand of 3.3 lakh MT has been estimated. 189 structures are likely to get affected.

Total cost of the project is Rs. 235.59 crores including civil cost, Environmental cost (Rs.2.28 cr), shifting of utilities, land acquisition and R&R cost (Rs.6.78 cr).

The project was considered in EAC meeting held in April, 2011 and finalized ToR including conduct of Public Hearing. PP informed that the implementing agency is M/o Road Transport, Govt of West Bengal and there is change of scope of the project and as per the revised project the widening is proposed within existing RoW and additional RoW for Toll plaza is 18 m less than 20 m.

**The Committee noted that since there is no land acquisition and additional RoW is less than 20m hence, the project does not attract EIA Notification, 2006.**

#### **4.20 Environment clearance for 2-lane/2-lane with paved shoulder configuration of Bankura-Purulia Section of km.0.00 to km. 84.00 of NH-60A in West Bengal (10-89/2011-IA.III)**

The project was considered in EAC meeting held in October, 2011 and finalized ToR including conduct of Public Hearing. Public Hearing conducted on 23.08.2012 at Purulia District and 24.08.2012 at Bankura. Major issues raised are compensation, by pass.

It is noted that the public hearing proceeding did not reflect the response of the proponent on the issues raised by the public. The committee suggested that the Proponent has to take up the issue with the State Pollution Control Board for necessary correction and resubmit the minutes along with the action plan.

*In view of the foregoing observations, the committee recommended to defer the proposal. The proposal shall be considered afresh after the above observations are addressed and submitted for reconsideration.*

#### **4.21 Finalisation of ToR for construction of Standalone Ring Road/By pass link road around Srinagar City of NH -1 A in the state of J & K (F.No. 10-30/2013-IA-III)**

The Proposed Srinagar Bypass starts at km 277/800 of existing NH 1A and ends at Wyul junction on Sonmarg road of NH 1D. Total length of the project road is 60.783km. The project road is planned in two phases as phase-I and phase-II. Phase-I starts from Galanderand ends

at Narbal junction. Phase-I has been proposed for four laning and it comprises around 39.00kms of total project road. Phase-II starts from Narbal junction and ends at Wayul junction on existing NH-1D. This section of bypass has been proposed for two laning with paved shoulder and it comprises 21.8 kms of the total project road. Portion of around 5 kms of the existing (BRO) road will also be utilized in this phase. The terrain of the entire project road is plain except from km 15+600 to km 23+580 is rolling/ mountainous. The project passes through 5 districts viz Pulwama, Budgham, Baramulah, Bandipora and Gandharbal in the state of J&K. The project road passes through 10 Tehsils viz Pampore, Pulwama, Chadora, Budgham, Beerwa, Pattan, Chaterbal, Sumbal Sonawari and Laar. The proposed ROW is 60m in plain section and more than 60 m (up to 120m) in some places in rolling section as required for slope protection. No National Park, Wildlife Sanctuary and Critically Polluted Identified Area notified by CPCB are located within the 10kms radius from the proposed project road. Approximately 378 ha land proposed to be acquired for the proposed bypass. The nature of land is 70% agricultural, 20% Barren/Govt. and remaining 10% other lands (Orchard + Built-up area). No Forest land is likely to be diverted for the project road. Hokersar Wet land is located 500m (approximately) away from the proposed project road. The project road is crossing 3 rivers (Doodhganga, Shaliganga and Jhelum river), around 32 streams and 64 canals/nallahs. There will be 3 nos. of major bridges, 28 nos. minor bridges and 257 nos. culverts are proposed in the project road. ROB/RUB has been proposed at two locations km 2.3 & km 25.9 on railway crossings of the project road. 3 flyovers, 10 vehicular underpasses and 14 pedestrian/cattle underpasses have been proposed in the project road. Tentative length of service road is 13 km proposed at 10 locations. Major and minor junctions shall be improved as per requirement given in IRC codes. Toll plaza is proposed at 1 location i.e. at km 31.5 before Narbal junction. Approximately 479,000 MT fine aggregate, 4,400,000 MT coarse aggregate, 223,000 MT Cement and 3730000 CM earth work will require during construction of the project road. Total requirement of water is estimated about 854.80 KLD and that requirement will be fulfilled from rivers and underground water resources after taking prior approval from concerned authorities.

About 17929 trees (approximate 295 trees/km) mainly popular trees are likely to be felled in non-forest area. 153 structures are likely to be affected including utilities like hand pumps. The estimated budget for environment management, monitoring and including compensatory afforestation has been earmarked as approximately Rs 5.83 Crore. The estimated cost for Resettlement & Rehabilitation is approximately Rs. 248.55 Crore. The estimated civil cost of the project road is Rs. 799.2 Crore. The estimated total cost of the project road is Rs. 1053.58 Crore.

**During the discussions, the Committee finalized the following TOR for further study:**

- (i) *The project road is not passing/ falling within 10 km through any eco- sensitive area.*
- (ii) *The proposal indicates about 37.399 ha forest land is to be acquired. Necessary stage – I forestry clearance shall be obtained.*
- (iii) *PP shall consult the Defence authority and submit the details.*

- (iv) *It is indicated that 2900 nos. trees falls within the proposed RoW, however, bare minimum trees to be cut, the information should be provided about their species and whether it also involved any protected or endangered species.*
- (v) *Explore the possibilities of cooled mixed technology instead of hot mixed technology.*
- (vi) *The additional ToR and General Guidelines as per the annexure-I and Annexure-II respectively to this Minutes shall also be considered for preparation of EIA/EMP.*
- (vii) *Submit details on borrow areas as per OM dated 18/12/2012.*
- (viii) *Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "<http://moef.nic.in/Manual/Highways>".*

Public hearing to be conducted for the project as per provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan.

A detailed draft EIA/EMP report should be prepared as per the above additional TOR and should be submitted to the Ministry as per the Notification.

#### **4.22 Finalisation of ToR for widening and strengthening of existing carriageway to 2-lane with paved shoulder and 2-lane with earthen shoulder (km.0.000 to km.149.800) (Design Chainage 155.713) of Thanjavur-Manamadurai Section of NH-226 in the State of Tamil Nadu. (F.No.10-31/2013-IA-III)**

Proponent informed that ToR was considered by EAC in its meeting held on 20<sup>th</sup> to 22<sup>nd</sup> October, 2010. However, EIA report could not be finalised due to changes in proposed RoW and changes in Manamadurai bypass, and subsequent delay in preparation of LA Plan. Validity of ToR has been expired and hence requested for fresh ToR

Project road starts at Thanjavur at Km 0+000 and ends at Manamadurai at Km 149+800. From Km 56+460 to Km 72+185 (15.7 Km) the project road overlaps with NH 210. Hence, the total Design length of the road covered under the present project is 132.957 km. The project road connects NH 67 (Nagapattinam – Gundalpet) with NH 49 (Kochi – Rameswaram) and passes through three districts – Thanjavur, Pudukottai and Sivagangai. The project road traverses through 81 villages and 5 major towns (Pudukottai, Thirumayam, Thirupathur, Sivaganga and Manamadurai). The Project road has been designed for ruling design speed of 100 kmph and a minimum design speed of 80 kmph. The project road is proposed to be improved to two lane with paved shoulder configuration from km 0+000 (Design Chainage km 0+000) to km 93+400 (Des. Ch km 98+220) and two lane with earthen shoulder from km 93+400 (Des. Ch km 98+220) to km 149+800 (Des. Ch km 155+713) according to the traffic

consideration. The project road does not pass through CRZ, ecologically sensitive or protected areas. There are 13 major Junctions proposed along the entire project stretch including start and end points of all the proposed bypasses. There are 9 minor bridges and 3 major bridges along the project road. Major bridges are proposed to be retained. Bypasses are proposed at 5 locations along the project road as given below.

- Pudukottai Bypass is proposed from existing km 47+460 to km 61+680 with design length of 18.42 km (8.310 km of NH 226 +10.110 km of NH 210).
- Tirumayam Bypass is proposed from existing km 70+590 to km 74+190 with design length of 4.46 km (1.850 km of NH 226 + 2.610 km of NH 210)
- Tirupatur bypass is proposed from existing km 93+310 to km 100+290 with design length of 7.4 km
- Sivaganga bypass is proposed from existing km 126+860 to km 134+980 with design length of 8.8 km
- Manamadurai bypass is proposed from existing km 145+310 to km 48+150 on NH 49 with design length of 4.1 km

Total length of existing road bypassed is 37.41 km and total length of bypasses is 43.19 (30.47 km is as part of NH 226 and remaining is as part of NH 210). One ROB is proposed at the pudukkottai bypass at design chainage km 54+776 and the existing Railway Level Crossing at Ex. km 146+510 (Des. Ch. 152+485) is retained with improvements. Toll plazas are proposed at two locations viz. km 16+100 (Des ch. km 16+095) and km 88+450 (Design ch. km 92+957). Bus bays are proposed at 13 locations. Total 316 culverts are proposed along the project stretch, out of which 254 are along the existing road and 62 are along the bypasses. Total 383.36 Ha of land is proposed to be acquired for the project. The project requires diversion of 37.399 Ha of forest land and hence requires clearance under Forest (conservation) act, 1980. About 2900 trees are to be felled for the project road, against which about 8700 trees are proposed to be planted. Cost of construction for the project road is Rs. 509.83 Crores. Environmental management cost works out to Rs. 6.293 Crores. R&R cost for the project is about Rs. 162.37 Crores and utility shifting cost is Rs. 3.68 Crores.

**During the discussions, the Committee finalized the following TOR for further study:**

- (ii) *The project road is not passing/ falling with 10 km through any eco- sensitive area.*
- (iii) *The proposal indicates about 37.399 ha forest land is to be acquired. Necessary stage –I forestry clearance shall be obtained.*
- (iv) *PP shall consult the Defence authority and submit the details.*
- (v) *It is indicated that 8700 nos. trees falls within the proposed RoW, however, bare minimum trees to be cut, the information should be provided about their species and whether it also involved any protected or endangered species.*

- (vi) *Explore the possibilities of cooled mixed technology instead of hot mixed technology.*
- (vii) *The additional ToR and General Guidelines as per the annexure-I and Annexure-II respectively to this Minutes shall also be considered for preparation of EIA/EMP.*
- (viii) *Submit details on borrow areas as per OM dated 18/12/2012.*
- (ix) *Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "<http://moef.nic.in/Manual/Highways>".*

Public hearing to be conducted for the project as per provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan.

A detailed draft EIA/EMP report should be prepared as per the above additional TOR and should be submitted to the Ministry as per the Notification.

#### **4.23 Finalisation of ToR for 2/4 laning of Kakrbhitta-Panitanki-Phulbari-Banglabandha Road (AH-2) and Phuentsholing- Jaigaon-Hasimara-Dhupguri-Changrabandha—Bhurimari Road with Pasakha access road (AH-48) (F.No.10-18/2013-IA-III)**

##### **Package-I -Kakarbhitta- Panitanki- Fulbari- Changrabandha Road (AH-2)**

The Kakarbhitta- Panitanki – Fulbari- Changrabandha road is a part of Asian Highway -2 (AH-2) corridor. The project development will be through Asian Development Bank (ADB) funding. The project road starts at Mechi River bridge near Kakarbhitta (Indo-Nepal Border) at km 0.000 (design chainage) and ends at Banglabandha at km 37.100 (Design Chainage). The total length of this corridor is 49.390 km. The length of this corridor comprises of sections - Kakarbhitta- Panitanki Chowk (1.30 km), Panitanki chowk- Bagdogara junction (17.25 km), Bagdogara- Junction to Shiv Mandir Junction (5.90 km), Shivmandir Junction to Medical Junction (2.60 km), Medical Junction to Nauka Ghat ( 4.60 km), Nauka Ghat- Fulbari Junction ( 5.0 km), Fulbari Junction to Banglabandha Border ( 2.10 km), Medical Junction to Goshpukar Junction ( 6.20 km) and Goshpukar Junction to Fulbari Junction (5.50 km). Out all sections of corridor only Panitanki Chowk – Bagdogara Junction and Bagdogara junction – Shiv Mandir Mode sections are parts of NH-31C and NH-31 respectively. Balance sections have no designation of State or National Highway. The existing width of all sections of corridor is 2 lanes. The entire length passes through plain area. The project road corridor traverses through Darjeeling (37.300 km) and Jalpaiguri ( 12.090 km) districts of West Bengal.. Major settlements along the project road are Panitanki, Naxal Bari, Bagdogara, Silliguri and Fulbari. The total revenue villages in the entire length of alignment are 35(31 in Darjeeling District and 4 in Jalpaiguri district).

The project road does not pass through 10 Km boundary of any protected areas e.g. National Park, Sanctuaries, and animal habitations. The project also does not involve diversion of any forest land. The land use pattern along the project road corridor is agriculture, followed by settlements, vacant land, water bodies and vacant land. Tea plantation is prominent on either side of the corridor. The total land requirement for bypasses, realignments and improvements of curves of proposed road corridor has been estimated as 12 Ha. This land includes about 9 Ha government land and balance 3 Ha as private land. The existing RoW varies from 35 to 45 m. This is sufficient for proposed widening. The proposed RoW Panitanki bypass is 45 m. The proposed improvement is 2 lanes to 4 lanes with paved shoulders in a length of 11.90 km. The proposed improvement in balance length of 37.490 km is 2 lanes with paved shoulders. Bypass for Panitanki has been proposed to avoid structural demolition and displacement. The length of the bypass is 2.050 km. In the existing road corridor length there are 7 major bridges, 17 minor bridges, 1 RUB, 4 level crossings 64 slab culverts, 10 pipe culverts, and one box culvert. In the proposed improved corridor there will be three additional major bridges, 2 minor bridges, 1 flyover and, 2 RoBs. There will be 26 bus bays, and 1 truck lay bye in the improved and widened road. Proposed safety measures include retaining walls at high embankment locations (approaches of new bridges, flyovers, and RoBs, improvements of 166 minor junctions, blinker signals at all major intersections and road studs and hazard markers/delineators at intersections and curves. The safety features have been planned as per IRC guidelines. The major rivers being crossed by project corridor are Mechi, Mahanada and Balason, Deomani, Halia. There are no ponds within 15 m of existing road centreline. About 5,000 trees fall in the proposed RoW. However, bare minimum 3500 (approx) trees proposed to be felled for widening and improvement project road corridor. The water requirement during construction is estimated about 900 kLD for dust suppression, domestic consumption and construction. This requirement will be met from ground water (80 %) and surface water (20 %). The estimated quantities of earth work, aggregates and sand are 546,000, 3,000,000, and 80,000 m<sup>3</sup> respectively. There is no provision of usage of fly ash as there is no coal based power plant in 100 km radius. A total of 95 structures completely and 44 structures partially to be affected. The compensation for land will be paid as per LA Act, 1898/NHAct, 1956. The compensation for loss of structures and livelihood will be paid as per NRRP 2007/ADB Safeguard Policy Statement 2009 (SPS 2009). The project affected households (PAHs) tile is about 120. The avenue plantation will be carried out as per IRC SP 21: 2009 apart from statutory requirement. Total project cost is INR 7546.6 millions (TPC). The EMP cost is INR 7 Crores (approximately). The rehabilitation and resettlement cost is INR 40 Crores (approximately).

**During the discussions, the Committee finalized the following TOR for further study:**

- (i) *The project road is not passing/ falling with 10 km through any eco- sensitive area.*
- (ii) *It is indicated that 3500 nos. trees falls within the proposed RoW, however, bare minimum trees to be cut, the information should be provided about their species and whether it also involved any protected or endangered species.*
- (iii) *Explore the possibilities of cooled mixed technology instead of hot mixed technology.*

- (iv) *The additional ToR and General Guidelines as per the annexure-I and Annexure-II respectively to this Minutes shall also be considered for preparation of EIA/EMP.*
- (v) *Submit details on borrow areas as per OM dated 18/12/2012.*
- (vi) *Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "<http://moef.nic.in/Manual/Highways>".*

Public hearing to be conducted for the project as per provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan.

A detailed draft EIA/EMP report should be prepared as per the above additional TOR and should be submitted to the Ministry as per the Notification.

**Package-II -Phuentsholing – Jaigaon- Hasimara-Dhupguri- Changrabandha- Burimari Road along with Pasakha Access Road ( AH-48)**

The Phuentsholing- Jaigaon- Hasimara- Dhupguri- Changrabandha- Burimari road along with Pasakha access road is a part of Asian Highway -48 ( AH-48). The project development will be through Asian Development Bank (ADB) funding. The project road starts at Changrabandha (India- Bangladesh) border at km 0.000( Design chainage) and ends at Phuentsholing ( India- Bhutan Border) at km 108.800 ( design chainage). The Pasakha Access road starts at km 101.460 (design chainage) of AH-48 and ends near Pasakha in India at km 6.800 ( design chainage of Pasakha Access Road). The total length of corridor is 119 km. The length of this corridor comprises of the sections – Changrabandha- Mynaguri (20.60 km, part of SH-12 ), , Mynaguri- Dhupguri( 20.20 km, part of NH-31C), Dhupguri- Telipara ( 17.50 km, part of NH-31), Telepara- Birpara ( 8.000 km, part of NH-31), Birpara-Hasimara ( 26.000 km, part of NH-31 C ) , Hasimara Jaigaon ( 18.40, part of SH-15 ) and Pasakha Access road ( 6.80 km, new alignment). The entire length passes through plain area. The project road corridor traverses through Jalpaiguri (114.90 km) and Cooch Behar (4.100 km) districts of West Bengal.. Major settlements along the project road are Changrabandha, Mynaguri, Dhupguri, Telipara, Birpara, Hasimara, Jaigaon and Phuentsholing. The total revenue villages in the entire length of alignment are 59(54 in Jalpaiguri District and 5 in Cooch Behar district).

The project road pass through Jaldapara National park for a length of about 2700 m. The project road also passes through reserved forest outside Jaldapara Wild Life sanctuary from km 77.230 to 78.160 and km 80.000 to 80.750 (design chainages). The reserved forest land diversion is about 5.0 Hectares. The land diversion in Wild Life sanctuary is about 3.0 hectares to facilitate elephant underpasses in three numbers/. Some portion of project road section from Hasimara to Jaigaon and Pasakha access road will fall within 10 km distance of Buxa Tiger Reserve. The

land use pattern along the project road corridor is agriculture, followed by settlements, vacant land, water bodies, forest and vacant land. Tea plantation is prominent on either side of the corridor. The total land requirement for bypasses, realignments and improvements of curves of proposed road corridor has been estimated as 55 Ha. This land includes about 35 Ha government land and balance 20 Ha as private land. The existing RoW varies from 35-30 m on SH-12 A( Changrabandha to Mynaguri), 35-50 m from Mynaguri to Telipara section,, 25-60 m in Hasimara- Birpara section and from Hasimara to Jaigaon 10-30 m.. The proposed RoW for new alignment is 45 m. The proposed improvement is 2 lanes to 4 lanes with paved shoulders in a length of 46 km. The proposed improvement in balance length of 73.30 km is 2 lanes with paved sholders. Bypass for Hasimara town has been proposed to avoid structural demolition and displacement. The length of the bypass is 4.65 km. A new access road to Pasakha is proposed to avoid entry of heavy traffic in congested habitation of Jaigaon. In the existing road corridor length there are 10 major bridges, 36 minor bridges, 1 RUB, 1 ROB, 1 level crossings 71 slab culverts, 3 pipe culverts, 1 causeway, and five box culvert. In the proposed improved corridor there will be one additional RoB, 3 elephant underpasses. There will be 44 bus bays, and 8 trucks lay bye in the improved and widened road. Proposed safety measures include retaining walls at high embankment locations (approaches of new bridges, flyovers, and RoBs, improvements of 166 minor junctions, blinker signals at all major intersections and road studs and hazard markers/delineators at intersections and curves. The safety features have been planned as per IRC guidelines. The major rivers being crossed by project corridor are Torsa, Kalua, Dimdima, Halang Deomali and Dudua. There are no ponds within 15 m of existing road centreline. About 12,000 trees fall in the proposed RoW. However, bare minimum 9000 (approx) trees proposed to be felled for widening and improvement project road corridor. The water requirement during construction is estimated about 900 kLD for dust suppression, domestic consumption and construction. This requirement will be met from ground water (80 %) and surface water (20 %). The estimated quantities of earth work, aggregates and sand are 1,090, 000, 5,860,000, and 160,000 m<sup>3</sup> respectively. There is no provision of usage of fly ash as there is no coal based power plant in 100 km radius. A total of 250 structures completely and 145 structures partially to be affected. The compensation for land will be paid as per LA Act, 1898/NHAct, 1956. The compensation for loss of structures and livelihood will be paid as per NRRP 2007/ADB Safeguard Policy Statement 2009 (SPS 2009). The project affected households (PAHs) tile is about 310. The avenue plantation will be carried out as per IRC SP 21: 2009 apart from statutory requirement.

Total project cost is INR 13479.20millions (TPC). The EMP cost is INR 14 Crores (approximately). The rehabilitation and resettlement cost is INR 70 Crores (approximately).

**During the discussions, the Committee finalized the following TOR for further study:**

- (i) *AH-48 passes through Jaldapara WLS for length of about 3 km, Khori Bari Reserve Forests is 100 m near Panitanki on AH-2. Prior Clearance of NBWL and Supreme Court of India is required.*

- (ii) *The proposal indicates about 5 ha forest land is to be acquired. Necessary stage – I forestry clearance shall be obtained.*
- (iii) *It is indicated that 9000 nos. trees falls within the proposed RoW, however, bare minimum trees to be cut, the information should be provided about their species and whether it also involved any protected or endangered species.*
- (iv) *Explore the possibilities of cooled mixed technology instead of hot mixed technology.*
- (v) *The additional ToR and General Guidelines as per the annexure-I and Annexure-II respectively to this Minutes shall also be considered for preparation of EIA/EMP.*
- (vi) *Submit details on borrow areas as per OM dated 18/12/2012.*
- (vii) *Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "<http://moef.nic.in/Manual/Highways>".*

Public hearing to be conducted for the project as per provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan.

A detailed draft EIA/EMP report should be prepared as per the above additional TOR and should be submitted to the Ministry as per the Notification.

#### **4.24 Environment clearance for widening & improvement of Existing alignment to 4-lanes of Solan-Shimla Section of NH-22 in the State of Himachal Pradesh. [F.No. 10-121/2011-IA.III)**

The existing road starts at Solan at km 106.000 of NH-22 and ends at Dhalli at km 156.507 of NH- 22. The existing length is 66.930 km. The proposed project length is 50.507 km. The project road traverses through hill area through the 51 revenue villages of Solan ( km 106.000 to 129.007) and Shimla ( km 129.007 to 156.507) district of Himachal Pradesh. The entire length of project road falls in the State of Himachal Pradesh. The land use pattern along the project road is hilly ( 83.45%), agriculture ( 3.45% , barren (5.1%) , settlements ( 6.3%), vacant ( 1.3%) and undemrcated forest land ( 0.5%). The project road does not pass through 10Km radius of protected areas e.g. National Park, Sanctuaries, and animal habitations. There is no protected area within 10 km distance of project road. The project road is close to Kalka-Shimla rail line which UNESCO is declared heritage Rail line. The total land requirement for bypasses, realignments and widening of existing road has been estimated as 210 ha. This land includes about 128Ha private land, govt land and forest land. The district wise land requirement is 151.5 ha in Solan distri and balance 58.50 ha in Shimla district. The proposal for diversion of 58.3 ha forest land is with the State Government. The existing RoW

varies from 12 to 24 m. The proposed RoW is 45 m. The planned improvements are 4 lane with paved shoulders on either side in the entire length of 50.507 km. Two bypasses have been proposed at major habitations of Kandaghat and Shoghi-Shimla- Dhalli. These bypasses have been recommended due to environmental and social considerations. The bypasses planned and their lengths are as follows:

- Kanda Ghat Bypass -1.360 km
- Shoghi-Shimla Bypass - 27.500 km

In order to improve the geometrics, small realignments are proposed at few locations of existing alignment. In the existing road there are no major bridges, 3 minor bridges, and 185 Culverts. The proposed number of Major bridges, Minor Bridges, Viaduct and culverts are 10, 0, 23 and 240 respectively. The other proposed structures are 2 truck lay byes, 15 bus bays and one Toll Plaza. The project designed to provide tunnels at four locations (km 117.600 to 118.060, km 130,190 to 130.880, km 135.930 to 137.160 and km 156.350 to 156.450). Controlled blasting will be used during construction of tunnel. The minor hill cut sections have been identified as km 108 .410 to 110.120, km 113.830 to 115.0 and km 118.700 to 120.220. The project road crosses Kathulu Ka Nalla (km 131.800), Samari Ka Nalla (km 137.500), Kair Ka Nalla (km 147.570) and Kalali Ka Nalla (km 156.165). 20,000 trees fall in the proposed RoW. However, bare minimum 16000 ( approx) trees proposed to be felled for widening and improvement of four laning. Through provision of tunnels about 60,000 Deodar trees have been saved at Masobara junction (km 135.930 to 137.160) The water requirement during construction is estimated as 700 kld for dust suppression, domestic consumption and construction. This will be taken from local streams/small falls. The earth work requirement has been estimated as 2098230 m<sup>3</sup> for which 6 borrow areas have been identified. The other construction material requirements are GSB 76537 m<sup>3</sup>, WMM 152521 m<sup>3</sup> and sand 55657 m<sup>3</sup>. There is no provision of usage of fly ash as there is no coal based power plant in 100 km radius. A total of 439 structures completely and 31 structures partially to be affected. Total PAPs and PAHs are 1319 and 430 respectively. The NHAI shall compensate to the authorised owners as per NH Act 1956.

Total project cost is INR 2238 Crores (TPC). The EMP cost is INR 46 Crores. The rehabilitation and resettlement cost is INR 451.6 Crores (446 Land and structure cost and 5.6 rehabilitation and resettlement cost).

The project was considered in EAC meeting held in February, 2012 and finalized ToR including conduct of Public Hearing. Public Hearing conducted on 27.02.2013 at Solan, on 28.02.2013 at Shimla. Major issues raised during the public hearing are measures to prevent land sliding, prevent tunnels. The responses submitted and presented by the proponent were examined by the Committee.

**During the discussion, the following points emerged:**

- (i) *The project road is not passing through eco-sensitive areas.*

- (ii) *The project indicates diversion of 30 ha forests. Necessary stage –I forestry clearance shall be obtained.*
- (iii) *It is indicated that 16,000 nos. trees to be cut. Necessary permission from competent authority shall be obtained for tree cutting. Necessary compensatory plantation shall be carried out and cost provision should be made for regular maintenance.*
- (iv) *Project involves tunneling at three location. the blasting shall be restricted only for 8 days with restricted time from 8 am to 6 pm subject to the following condition:*
- (v) *NHAI shall intimate the local authority before carrying out the blasting.*
- (vi) *All other required clearances for carrying out blasting shall be obtained from the competent Authority.*
- (vii) *The technique adopted for controlled blasting at identified locations is non-electric detonating technique.*
- (viii) *RCC retaining wall shall be constructed in habitated area to prevent land sliding as per commitment made during the public hearing.*
- (ix) *Explore the possibilities of using cold mix technology wherever possible particularly near wildlife sanctuary.*
- (x) *Rain water harvesting including oil and grease trap shall be provided. Water harvesting structures shall be located at every 500 mts along the road. Vertical drain type rainwater harvesting structures shall be set up to minimize surface runoff losses of rainwater.*
- (xi) *R&R shall be as per the guidelines of State/Central Government.*
- (xii) *IRC guidelines shall be followed for widening & up-gradation of road.*
- (xiii) *The responses/commitments made during public hearing shall be complied with letter and spirit.*
- (xiv) *All the recommendation of the EMP shall be complied with letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO.*

***The Committee recommended the proposal for Environmental Clearance with the above condition in the Clearance letter for strict compliance by the project proponent***

**4.25 Environment clearance for widening & improvement of Existing alignment to two lane with Paved Shoulder of Sitarganj - Bareilly Section, Km 254.820 to Km 330.910 (Design chainage 254.820 to 329.280) of NH-74 in Uttarakhand and Uttar Pradesh States(File No : 10-1/2012-IA.III)**

The project road is Widening & improvement of Existing alignment to two lane with Paved Shoulder of Sitarganj - Bareilly Section, Km 254.820 to Km 330.910 (Design chainage 254.820 to 329.280) including borrow area of NH-74 in Uttarakhand and Uttar Pradesh States. Total length of the project road is 74.460 km. The land use along the project road is predominantly agricultural and built-up area. The existing Right of Way (RoW) is 19 m - 40 m while the proposed ROW is 45 m at re- alignment. 18.6 ha of land is proposed to be acquired for the project road. The project road involves diversion of 36.054 ha protected forest land. Forest diversion proposal for the project road is at Regional Office of MOEF, Lucknow. The project road does not pass through any sensitive area like wildlife sanctuary, national park and bio-reserve. There is no environmental sensitive location within 10 km distance from the project road. Proposed up-gradation of the project road will not impact any pond or water body. No bypass is proposed in the project road. There is existing 1 major bridge and 17 minor bridges in the project road, same shall be retained and widened. Total 177 culverts shall be provided in the project road, out of which 122 culverts shall be reconstructed, 3 culverts will be widened, 21 culverts will be retained and repaired while 31 additional will be provided in the project road. There will be 64 hume pipe culverts, 53 box/arch culverts and 61 slab culverts. There are 2 major junctions and 26 minor junctions, which will be improved as per IRC guidelines. In the project road, truck lay bye is proposed at one location while bus bays are proposed at 20 locations. Toll plaza is proposed at one location. The proposed up-gradation will involve 8,46,065 cum coarse aggregate, 3,24,816 cum fine aggregate/sand and 1063081.21 cum borrow earth. There is no coal based power plant within 100 km, therefore, there is no provision of use of fly ash in the project road. 63 structures (houses and shops) will be partially affected and compensated as per National Highways Act, 1956. Total water requirement for the project road will be 275 kl per day and same will be met from surface and ground water resources after obtaining necessary permissions. For proposed up-gradation of the project road, total 5474 trees are likely to be felled. The cost of implementation of EMP will be Rs 3.3 Crores. The land acquisition and R&R cost is estimated as Rs. 11.7 Crores. The civil construction cost of project is Rs. 301.5 Crores.

The project was considered in EAC meeting held in March, 2012 and finalized ToR including conduct of Public Hearing. Public Hearing conducted on 28.02.2013 at SDM Office, Sitarganj, on 13.03.2013 at Collectorate, Bareilly, on 14.03.2013 at Pilibhit. Major issues raised during the public hearing Rehabilitation and compensation, tree cutting, safety. The responses submitted and presented by the proponent were examined by the Committee.

**During the discussion, the following points emerged:**

- (i) *The project road is not passing/ falling within 10 km through any eco- sensitive*

area.

- (ii) *The project indicates involvement of 36.054 ha protected forests. Necessary stage –I forestry clearance shall be obtained.*
- (iii) *It is indicated that 5474 nos. trees to be cut. Necessary permission from competent authority shall be obtained for tree cutting. Necessary compensatory plantation shall be carried out and cost provision should be made for regular maintenance.*
- (iv) *Explore the possibilities of using cold mix technology wherever possible particularly near wildlife sanctuary.*
- (v) *Rain water harvesting including oil and grease trap shall be provided. Water harvesting structures shall be located at every 500 mts along the road. Vertical drain type rainwater harvesting structures shall be set up to minimize surface runoff losses of rainwater.*
- (vi) *R&R shall be as per the guidelines of State/Central Government.*
- (vii) *IRC guidelines shall be followed for widening & up-gradation of road.*
- (viii) *The responses/commitments made during public hearing shall be complied with letter and spirit.*
- (ix) *All the recommendation of the EMP shall be complied with letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO.*

***The Committee recommended the proposal for Environmental Clearance with the above condition in the Clearance letter for strict compliance by the project proponent***

**4.26 Environment clearance for widening & improvement of existing alignment to two lane with Paved Shoulder of Karauli to Dholpur Section (Km.83.960 to Km.184.860) of NH-11 B including Borrow Areas in Rajasthan State File No : 10-2/2012-IA.III)**

The project road is Widening & improvement of existing alignment to two lane with Paved Shoulder of Karauli to Dholpur Section (Km.83.960 to Km.184.860) of NH-11 B including Borrow Areas in Rajasthan. Total length of the project road is 100.900 km. The land use along the project road is predominantly agricultural, barren, forest and built-up areas. The existing Right of Way (RoW) is 13 m - 30 m. The proposed ROW is 45 m at realignment and bypass while 30 m in existing road stretch. About 324.4183 ha of land is proposed to be acquired

for 2 lane up-gradation with paved shoulders of the project road. The project road will require diversion of 10 ha forest land, the proposal for diversion of forest land is with State Govt. The project road is passing through Kesarbagh Wildlife Sanctuary. Realignment of 12.02 km length has been proposed to avoid the Kesarbagh Wildlife Sanctuary at about 500 m to 3.5 km away from the periphery of this Wildlife Sanctuary. The proposal for clearance of eco-sensitive zone is with Chief Wildlife Warden. Proposed up-gradation of the project road will not impact any pond or water body. Bypasses have been proposed at Sirmathura town (Km 122.460 to Km 139.620) and Bari town (Km 152.250 to Km 157.310). Realignment have been proposed at Angai (Km 138.040 to Km 126.290), Baragaon (Km 113.830 to Km 115.200) and Nagla-Venega (Km 94.270 to Km 96.400). There are existing 3 major bridges and 7 minor bridges. Proposed up-gradation wil involve construction of 1 major and 8 minor bridges. Existing bridges will be widened upgraded . There are 127 culverts, out of which 5 will be widened, 45 will be reconstructed, 75 culverts will be newly constructed and 2 culverts will be retained. One vehicular underpass has been proposed in the alignment. There are existing 3 major junctions and 47 minor junctions, these will be improved as per IRC guidelines. One truck laybye and 24 busbays are proposed to be provided in the project road. There are two railway crossings on the project road and ROB's are proposed in railway crossings. Toll Plaza are proposed at two locations. 73 structures (houses and shops) are likely to be affected and compensated as per National Highways Act, 1956. For 2 laning of the project road, total 2694 trees are likely to be felled. Up-gradation of the project road will involve 1317578 m<sup>3</sup> aggregate, 146470 m<sup>3</sup> sand and 1751386 cum earth work will be involved. There is no source of flyash within 100 km distance from the project road. Total water requirement for the project road will be 250 kl per day and same will be met from surface and ground water resources after obtaining necessary permissions.

The cost of implementation of EMP will be Rs 2.98 Crores. Land Acquisition and R&R Cost is estimated as Rs. 66.5. Crores. The civil construction cost of project is Rs. 295.83 Crores.

The project was considered in EAC meeting held in March, 2012 and finalized ToR including conduct of Public Hearing. Public Hearing conducted on 03.04.2013 at Collectorate, Karauli and on 09.04.2013 at Dhaulpur. Major issues raised during the public hearing are land acquisition, compensation, tree cutting and compensatory plantation. The responses submitted and presented by the proponent were examined by the Committee.

**During the discussion, the following points emerged:**

- (i) *The project road is passing through Kesarbagh Wildlife Sancturay. Realignment of 12.02 km length has been proposed to avoid the Kesarbagh WLS. Prior*

*clearance shall be obtained from NBWL.*

- (ii) The project indicates diversion of 10 ha protected forests. Necessary stage –I forestry clearance shall be obtained.*
- (iii) It is indicated that 2694 nos. trees to be cut. Necessary permission from competent authority shall be obtained for tree cutting. Necessary compensatory plantation shall be carried out and cost provision should be made for regular maintenance.*
- (iv) Explore the possibilities of using cold mix technology wherever possible particularly near wildlife sanctuary.*
- (v) Rain water harvesting including oil and grease trap shall be provided. Water harvesting structures shall be located at every 500 mts along the road. Vertical drain type rainwater harvesting structures shall be set up to minimize surface runoff losses of rainwater.*
- (vi) R&R shall be as per the guidelines of State/Central Government.*
- (vii) IRC guidelines shall be followed for widening & up-gradation of road.*
- (viii) The responses/commitments made during public hearing shall be complied with letter and spirit.*
- (ix) All the recommendation of the EMP shall be complied with letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO.*

***The Committee recommended the proposal for Environmental Clearance with the above condition in the Clearance letter for strict compliance by the project proponent***

**4.27 Environment clearance for four laning of Rohtak –Jind section from km. 307.00 to km.347.800 of NH-71 and connecting link from km. 347.800 of NH-71 to km. 9.400 of NH-71A to be executed as BOT(Toll) on DBFOT Pattern under NHDP Phase III in the state of Haryana. (File No : 10-10/2011-IA.III)**

The project road starts from outskirts of Jind City at km 307+000 of NH-71 and terminates at km 355+600 on Rohtak – Panipat section of NH 71 A at km 14+300. The terrain along the entire project road is plain and predominant land use is agricultural. The total length is 48+600 Km. The entire length of the project road falls in the State of Haryana under Rohtak and Jind District. There is no national park, wildlife sanctuary or any other eco-sensitive areas within 10 km radius. Total land requirement for the project is 266.21 ha. Out of which 200.10 ha is Pvt.,

8.58 ha is Govt., 45.172 ha is Forest and 12.36 ha land is Panchayat Land. FAC during its meeting held in Feb 2013 recommended the proposal for diversion of 45.172 ha of forest land. The project road is not crossing any river or any other perennial waterway. Existing ROW width in general is 25m. The proposed ROW is 60m. Three (03) bypasses (i) Julana – 5.775 Km (ii) Lakhan Majara – 2.70 Km and (iii) Rohtak bypass connecting NH-71 with NH71A - 6.825 km are proposed. This aggregates to be 15.300 km. The existing road has 6 minor bridges and 85 culverts (46 pipes and 39 slabs). The proposed improvement includes 7 minor bridges. This includes widening of existing 3 minor bridges and new construction of 4 minor bridges. Total no. of proposed culverts is 108. This includes reconstruction of 83 existing culverts and construction of 25 new culverts. 01 Flyover/Grade separated structure is proposed at junction of NH 71 with NH 71A near Rohtak. 10 vehicular underpasses and 2 cattle underpasses will be provided. The service roads will be provided for the length of 18.710 km at 13 locations. 22 bus bays, 02 No. of truck lay byes and 01 Toll plaza cum rest area has been proposed. All major junctions (05) will be improved in the project road as per IRC guidelines. 17546 trees have been enumerated within proposed ROW in joint verification with forest department. However, actual felling will be restricted to toe line of proposed formation width. 132 residential structure and 32 commercial structures may be affected due to 4 laning of project road. Affected families will be compensated as per National Highways Act, 1956. Total water requirement will be 360 KLD, which will meet through combination of surface and ground water sources. 302455 cum soil, 302455 cum coarse aggregates and 238,000 cum of sand will be required for construction of project road. Fly ash may be utilized subject to its availability from Aravalli TPP, Jhajjar. The budget for environment management and monitoring has been earmarked as Rs. 1.58 Crores. The capital cost of the project is Rs. **283.25** Crores.

The project was considered in EAC meeting held in March, 2011 and finalized ToR including conduct of Public Hearing. Public Hearing conducted on 30.01.2013 at Jind and Rohtak districts. Major issues raised during the public hearing are likely impact on drain crossing, avoid bypass near the proposed college, tree plantation, compensation employment. The responses submitted and presented by the proponent were examined by the Committee.

**During the discussion, the following points emerged:**

- (i) *The project road is not passing/ falling with 10 km through any eco- sensitive area.*
- (i) *The project indicates diversion of 45.17 ha forests. Necessary stage –I forestry clearance shall be obtained.*
- (ii) *It is indicated that 17546 nos. trees to be cut. Majority are eucalyptus. Necessary permission from competent authority shall be obtained for tree cutting. Necessary compensatory plantation shall be carried out and cost provision should be made for regular maintenance.*
- (iii) *Fly ash shall be used in the project.*

- (iv) *Explore the possibilities of using cold mix technology wherever possible particularly near wildlife sanctuary.*
- (v) *Rain water harvesting including oil and grease trap shall be provided. Water harvesting structures shall be located at every 500 mts along the road. Vertical drain type rainwater harvesting structures shall be set up to minimize surface runoff losses of rainwater.*
- (vi) *R&R shall be as per the guidelines of State/Central Government.*
- (vii) *IRC guidelines shall be followed for widening & up-gradation of road.*
- (viii) *The responses/commitments made during public hearing shall be complied with letter and spirit.*
- (ix) *All the recommendation of the EMP shall be complied with letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO.*

***The Committee recommended the proposal for Environmental Clearance with the above condition in the Clearance letter for strict compliance by the project proponent***

**4.28 Finalisation of ToRs for widening of existing carriageway to 4/6laning of Cherthalai (km.379.100) to Thiruvananthapuram (km.551.900) of NH-47 in the State of Kerala.(F.No.10-35/2010-IA.III)**

The project was considered in EAC meeting held in June, 2010 and finalized ToRs including conduct of Public Hearing. Since ToRs validity has expired, PP submitted fresh application and informed that there is no change in the project design.

**The committee recommends the issue of fresh ToRs to the PP.**

**4.29 Extension of ToRs for rehabilitation of existing carriageway to 2/lane with paved shoulder of Bilaspur-Ambikapur section of NH-111 in the State of Chhattisgarh 10-25/2011.IA.III**

The project was considered in EAC meeting held in May, 2011 and finalized ToRs including conduct of Public Hearing. PP requested for extension of ToRs since there is delay due to change in the implementation agency. PP informed that there is no change in the project features.

***The committee recommends the extension of validity of ToRs by one year.***

#### **4.30 Environment clearance for rehabilitation & upgradation of existing 2 lane to 2/4 with paved shoulder from Amritsar to Sri. Ganganagar Section of NH-15 in the State of Punjab from Km 103.000 to km 399.000 (10-7/2011.IA.III)**

The existing project road starts from km 103.000 in Amritsar in Punjab and ends at km 399.000 at Sri Ganganagar near the Punjab/Rajasthan border. The existing length is 296 km. The proposed project road starts from km 112.575 in Amritsar in Punjab and ends at Km 398.772 in Sri Ganganagar near the Punjab/Rajasthan border. The proposed length is 286.198 Km. The road traverses through plain topography of 107 villages in seven districts of Amritsar (km 112.575 to km 123.1), Tarn Taran (km 123.1 to km 163.4), Ferozpur (km 163.4 to km 216), Faridkot (km 216 to km 265), Bathinda (km 265 to km 308.25), Muktsar (km 308.25 to km 344.95) and Fazilka (km 344.95 to km 398.773). The project road falls within 10 km of Harike WLS in the districts of Tarn Taran and Firozpur. Minimum distance from the project road is 1.3 km. The road also falls within 10 km of Abohar WLS in the district of Fazilka with the minimum distance being 3.6 km. No land diversion is involved in the WLS. Land use pattern along the project road is predominantly agricultural (83%) followed by settlements (9.86 %), vacant land (3.07 %), water bodies (1.03%) and vegetation (0.53%). Total land acquisition of 970.64 ha is involved. In Amritsar district its 63 ha, in Tarn Taran its 169.25 ha, in Firozpur its 228.59 ha, in Faridkot its 211.7 ha, in Bhatinda its 60.27 ha, Muktsar its 72.02 ha and in Fazilka its 165.13 ha. excluding forest land. The road side plantations are declared as protected forest. The proposal for diversion of 102 ha forest land is with state government. The existing RoW varies from 15 to 45m and proposed RoW is 45 to 60m except in Toll plaza (110m). The project road is an improvement from 2-lane to 2/4 lane with paved shoulder. 2-lane is proposed for 56.87 km and 4-lane for a length of 237.128 km. Seven bypasses have been proposed for a length of 66.008 km to avoid settlements, structural demolition and displacement.

##### **Proposed bypasses**

Amritsar bypass from km 112.575 to km 129.333 (length 16.785 km)

Naushera Pannaun bypass from km 139.870 to km 143.680 ( length 3.81 km)

Harike bypass from km 158.500 to km 168.400 (length 9.9 km)

Zira bypass from km 184.070 to km 189.760 (length 5.69 km)

Talwandi Bhai bypass from km 197.900 to km 204.900 (length 7 km)

Mudki bypass from km 209.300 to km 213.700 (length 4.4 km)

Faridkot & Kotkapura bypass from km 225.100 to km 243.550 (length 18.45 km)

Existing features of the road comprise 3 major and 45 minor bridges, 65 major and 341 minor junctions, 3 level crossings and 478 culverts. All the existing structures shall be improved. In addition, the proposed structures comprise 5 toll plazas, 5 truck lay byes, 9 vehicular underpasses, 1 pedestrian underpass, one 4-lane major, widening and replacement of 2 major bridges and 47 minor bridges, 30 major and 257 minor junctions, 98 bus bays, 5 RoBs, 5 flyovers, 5 way side amenities, 145 culverts, reconstruction of 386 culverts 4 traffic aid post, 4 vehicle rescue post, 4 trauma centers, 4 safety barricading, 4 medical aid post and temporary

diversion of 1500m. It crosses river Sutlej at km 166.000 and 22 canals. There are 7 ponds within 10 to 15 m of the road edge. 89018 trees are likely to get affected. Main species are kikar, siris, dalbergia sisoo, eucalyptus, arjun and khajoor. Total water requirement would be 915 KLD (80% from ground water and 20% from surface water). 67.9 lakh cum earthwork is involved and 20 borrow areas have been identified. 14.22 lakh cum of flyash will be used from Guru Nanak Dev TPP at km 287.500 in Bhatinda and Guru Hargobind TPP situated at 25 km away from Bhatinda city. Aggregates of 23.64 lakh cum and sand of 15.76 lakh cum will be required. Total number of structures to be affected is 1680 (17 in Amritsar, 366 in Tarn Taran, 358 in Firozpur, 217 in Faridkot, 70 in Bhatinda, 295 in Muktsar and 357 in Fazilka). Out of 1514 private structures 254 are getting fully affected and 1260 partially. Total PAPs and PAHs are 9413 and 2268.

Total cost of the project is Rs. 3517.42 crores including civil cost, Environmental cost (Rs. 19.8 cr), shifting of utilities, land acquisition and R&R cost (Rs. 1010.78 cr).

The project was considered in EAC meeting held in March, 2011 and finalized ToR including conduct of Public Hearing. ToR validity was extended by EAC in its meeting held in March, 2011. Public Hearing conducted on 15.04.2012 at Amritsar, at Tarn Taran, on 16.04.2013 at Ferozpur and Faridkot, on 17.04.2013 at Bhatinda and Sri Muktsar Sahib and on 18.04.2013 at Fazilka. Major issues raised during the Public Hearing area land acquisition, compensation tree cutting and compensatory plantation.

**During the discussion, the following points emerged:**

- (i) *The project road falls within 10 km of Harike WLS in the Tarn Taran and Firozpur Districts. The road also falls within 10 km radius of Abohar WLS in Fazilka. Prior clearance shall be obtained from NBWL.*
- (ii) *The project indicates involvement of 102 ha protected forests. Necessary stage –I forestry clearance shall be obtained.*
- (iii) *It is indicated that 47692 nos. trees to be cut. PP informed that the project road is widening along the existing alignment with 7 bypasses for the habitation is proposed. Most of the species are kikar, siris, dalbergia, sisoo, babool, eucalyptus, arjun and Khajoor.*
- (iv) *Necessary permission from competent authority shall be obtained for tree cutting. Necessary compensatory plantation shall be carried out and cost provision should be made for regular maintenance.*
- (v) *Explore the possibilities of using cold mix technology wherever possible particularly near wildlife sanctuary.*

- (vi) *Rain water harvesting including oil and grease trap shall be provided. Water harvesting structures shall be located at every 500 mts along the road. Vertical drain type rainwater harvesting structures shall be set up to minimize surface runoff losses of rainwater.*
- (vii) *R&R shall be as per the guidelines of State/Central Government.*
- (viii) *IRC guidelines shall be followed for widening & up-gradation of road.*
- (ix) *The responses/commitments made during public hearing shall be complied with letter and spirit.*
- (x) *All the recommendation of the EMP shall be complied with letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO.*

***The Committee recommended the proposal for Environmental Clearance with the above condition in the Clearance letter for strict compliance by the project proponent***

#### **4.31 Environment clearance for rehabilitation & upgradation of existing 2 lane to 2/4 with paved shoulder from Sangroor-Punjab/Haryana Border NH - 71 in the state of Punjab (F.No. 10-4/2011-IA-III)**

The project road starts near Hansdahihar at km 239.000 and ends at Anupgarh/Haryana Border at km 307.000 on NH-71. The terrain along the project road is plain from Km 239.00 to Km 307.000 in rolling. The existing length of the project road is about 68.000 km. The project road passes through the Jind district of Haryana State. Existing ROW width varies from 20 to 43 m. The proposed ROW varies 31 to 60 m except Toll Plaza. There is no wildlife sanctuary or national park within 10 km distance from the project road. One (01) bypass /major realignment is proposed in the project road, namely, Jind Bypass (Km 292.700 to Km 307.000). 180 ha land is proposed to be acquired for widening and bypasses on the project road. Proposal for diversion of 101.090 ha forest land is with Central Government. Total water requirement will be 300 kld, which will meet through surface water and ground water sources. Structures Details:-Existing 5nos of 2-lane minor bridges, 26nos Slab culvert, 1nos of Arch Culvert, 100nos of Pipe Culvert. Proposed: 2nos of ROB, 4nos of Flyover, 1nos of Pedestrian Underpass, 03 Reconstruction (one side)+01 Rehabilitation+5 New (4 one Side and 1 both Side) of Minor Bridge, 28nos of Slab Culvert, 116nos of Pipe Culvert, The service roads will be provided in the length of 10.040 km (LHS+RHS) at 3 Locations. Bus Bays will be provided at 7 locations both Side. All major junctions (06) and minor junction (47) will be improved in the project road as per IRC guidelines. Toll plaza is proposed at 1 location in the project road.

21047 trees are likely to be felled for 4 laning of the project road. 15 residential structure and 74 commercial structures may be affected due to 4 laning of project road. Affected families will be compensated as per National Highways Act, 1956. The budget for environment management and monitoring has been earmarked as Rs. 25 Crores (including cost of CA). The estimated cost for Resettlement & Rehabilitation (excluding Land Acquisition) is Rs. 2.25

Crores. The Total Civil cost of the project is Rs. 351 Crores. The Total project cost of the project is Rs. 439 Crores.

The project was considered in EAC meeting held in February, 2011 and finalized ToR including conduct of Public Hearing. Public Hearing conducted on 12.04.2013 at Patran, Patiala District and on 15.04.2013 at Khetla, Sanrur District. Major issues raised during the Public Hearing area land acquisition and compensation.

**During the discussion, the following points emerged:**

- (i) *The project road is about 1.208 km distance from Bir Aishwan WLS. Prior clearance from NBWL shall be obtained.*
- (ii) *The project indicates diversion of 92.80 ha forests. Necessary stage –I forestry clearance shall be obtained.*
- (iii) *It is indicated that 49707 nos. trees to be cut. Necessary permission from competent authority shall be obtained for tree cutting. Necessary compensatory plantation shall be carried out and cost provision should be made for regular maintenance.*
- (iv) *Fly ash shall be utilized in the project road.*
- (v) *Explore the possibilities of using cold mix technology wherever possible particularly near wildlife sanctuary.*
- (vi) *Rain water harvesting including oil and grease trap shall be provided. Water harvesting structures shall be located at every 500 mts along the road. Vertical drain type rainwater harvesting structures shall be set up to minimize surface runoff losses of rainwater.*
- (vii) *R&R shall be as per the guidelines of State/Central Government.*
- (viii) *IRC guidelines shall be followed for widening & up-gradation of road.*
- (ix) *The responses/commitments made during public hearing shall be complied with letter and spirit.*
- (x) *All the recommendation of the EMP shall be complied with letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO.*

*The Committee recommended the proposal for Environmental Clearance with the above condition in the Clearance letter for strict compliance by the project proponent*

**4.32 Finalisation of ToR for up gradation and improvement of existing 2-lane road with paved/granular/earthen shoulder to 4-lane divided configuration from km.163.500 to km.168.600 and 2-lane with paved and earthen shoulder from km.168.600 to km.327.000 (Phalodi to Jaisalmer Section-Rajasthan of NH-15 in the State of Rajasthan.(10-23/2013-IA.III)**

The project road starts from Phalodi at km. 163.500 of NH-15 and terminates at Jaisalmer (km. 327.000) of NH-15 in the state of Rajasthan. The total existing length is 166.500 km and proposed length is 163.500 Km. The project road passes through Jodhpur (for a length of km 36.600 km) and Jaisalmer (for a length km 126.500) District of Rajasthan. The project road mostly passes through plain terrain except in some sections which are passing through rolling terrain. The landuse along the project road is mostly barren and agriculture land. The project road meets few urban settlements enroute from Phalodi to Jaisalmer. The important settlements are Kalra, Gomat, Ramdevra, Pokaran, Khetoli, Lathi, Sodakor and Chandan. The Project road does not pass through any Reserve Forest or any area notified under Wild Life Act 1972 . There is no eco sensitive zone or other notified protected area under Wild life Act, 1972 within 10 km of the project boundary. The Vaccant Space on both sides of road has been notified as Protected Forest and requires diversion of 150 Ha, ( approx.). The proposed improvement requires acquisition of approx.37 Ha of barren land. The existing road has 2 lane configurations and proposal includes up-gradation to 4 Lane divided carriageway from 163.500 to km 168.600 (5.1 km) and 2-lane with paved shoulders from Km 168.600 to km 327.000 (158.400 kms). Existing RoW is varies between 30m to 45m in general and 45 to 60 m in certain reaches, carriageway width is 7.0 m at most of the sections. Proposed RoW is 45 m. The existing road has no major bridge , 3 minor bridge , 80 nos Culverts , 10 major and 70 minor junctions , The proposed road has one Major Bridge , 4 minor bridge ( 3 bridges retained , one new proposed on causeway ) , 112 nos. of Culverts (New 41 nos, Widening 8 nos, Reconstruction 7 Nos, Retained 56 Nos) , 5 nos 2 lane ROB, 2 Nos of Flyover ( one 4 lane and one 2 lane), Vehicular Underpass – 1 No and 10 nos of Major and 70 nos of Minor Junctions. The Proposed road has 4 nos of truck lay bye and 22 nos Bus Bays and toll plaza at three locations. The materials required for construction includes aggregates 1,314,650 MT , Sand 779,050 MT and Cement 284,030 MT. 250 KL/day of water is required for construction and the water will be extracted 20 % from surface & 80% from ground water sources. Approx. 2700 no of trees and 6800 plants falling along the road side , within proposed Right of way. 86 nos properties and 16 households comprise of about 137 PAPs are likely to be affected by widening and improvement of Highway.

The total project Cost for the proposed improvement proposal is 640.48 Crores and R&R cost is approx. 79.43 Lakhs.

**During the discussions, the Committee finalized the following TOR for further study:**

*(i) The project road is not passing through eco-sensitive areas, no wildlife Sanctuary*

*within 10 km radius.*

- (ii) The project indicates diversion of 150 ha forests. Necessary stage –I forestry clearance shall be obtained.*
- (iii) It is indicated that about 2700 nos. of trees / 6800 plants falls in the ROW, however, minimum number of trees to be cut, the information should be provided about their species and whether it also involved any protected or endangered species. Necessary green belt shall be provided on both side of the highway with proper central verge and cost provision should be made for regular maintenance.*
- (iv) Explore the possibilities of cool mixed technology instead of hot mixed technology*
- (v) Submit the details of the road safety audit and plans for meeting the IRC safety requirements.*
- (vi) The additional ToR and General Guidelines as per the annexure-I and Annexure-II respectively to this Minutes shall also be considered for preparation of EIA/EMP.*
- (vii) Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website “<http://moef.nic.in/Manual/Highways>”.*

Public hearing to be conducted for the project as per provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan.

A detailed draft EIA/EMP report should be prepared as per the above additional TOR and should be submitted to the Ministry as per the Notification.

**4.33 Finalisation of ToR for 4-laning of Madurai to Paramakudi section from km.5.000 to km.79.980 and 2-lane with paved shoulder from Paramakudi to Ramanathapuram section from km.79.9080 to km.120.110 of NH-49 in the State of Tamil Nadu (F.No.10-17/2013-IA-III)**

As presented by the project proponent, the project is for 4-laning of Madurai to Paramakudi section from km.5.000 to km.79.980 and 2-lane with paved shoulder from Paramakudi to Ramanathapuram section from km.79.908 to km.120.110 of NH-49 in the State of Tamil Nadu. The total design length of the four lane and two lane with paved shoulder section are 74.980km and 40.130 km respectively (The four lane road section shall extend from Ex. km 5.00 (Ring road junction) to Ex. km 79.340 (Proposed Paramakudi bypass end) and two lane with paved shoulders road section shall extend from Ex. km 79.340 to Ex. km 118.795 (Proposed

Ramanathapuram Bypass end). The Proposal Involves only felling of trees (non- forest area). There is no wildlife sanctuary, national park and biosphere reserve. Therefore, wildlife (Protection) Act, 1972 is not applicable. There are 243 existing structures on the project road consisting of 43 minor bridges, 201 Pipe, Slab & Box Culverts. Water shall be utilized in the road construction process. The water shall be withdrawn from the river. About 220 kl per day water is likely to be needed for construction. There are several settlement areas having hospitals, schools, places of worship, community places covering 15 km aerial distance from the project road. Bypasses for the towns of Silaiman (Km 5+000 to Km 12+000), Thiruppuvanam (Km16+850 to Km 25+925), Thiruppachethi (Km 29+990 to Km 31+990), Paramakudi (Km 70+500 to Km 79+980) and Ramanathapuram (Km 108+300 to Km 120+000) are proposed and realignments for about 3.815Km are carried out in line with Design Standards recommended.

The Existing RoW varies from 10 to 30m and the proposed additional Right of Way (ROW) is more than 20m throughout the project road. 5 Bypasses & 2 Realignment is proposed. There are 24 minor bridges existed and 19 new minor bridges are to be proposed. 129 Culverts are existed and 72 new culverts are to be proposed. 9 ROBs, 16 major junction, 76 minor junctions, 5 Truck Lay Bye, 2 new toll plazas and 31 bus bays to be proposed.

**During the discussions, the Committee finalized the following TOR for further study:**

- (i) The project road passes through buffer zone of Similipal Tiger Reserve, Transition zone of Similipali Biosphere reserve and Mayaurbhaj Elephant reserve. The project road also falls within 10 km from the boundary of Similipal WLS.*
- (ii) The project indicates diversion of ..... ha forests. Necessary stage –I forestry clearance shall be obtained.*
- (iii) It is indicated that about ..... nos. of trees / 6800 plants falls in the ROW, however, minimum number of trees to be cut, the information should be provided about their species and whether it also involved any protected or endangered species. Necessary green belt shall be provided on both side of the highway with proper central verge and cost provision should be made for regular maintenance.*
- (iv) Explore the possibilities of cool mixed technology instead of hot mixed technology*
- (v) Submit the details of the road safety audit and plans for meeting the IRC safety requirements.*

(vi) *The additional ToR and General Guidelines as per the annexure-I and Annexure-II respectively to this Minutes shall also be considered for preparation of EIA/EMP.*

(vii) *Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "<http://moef.nic.in/Manual/Highways>".*

Public hearing to be conducted for the project as per provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan.

A detailed draft EIA/EMP report should be prepared as per the above additional TOR and should be submitted to the Ministry as per the Notification.

**4.34 Finalisation of ToR for widening of existing carriageway to 2/4 laning of Bahargora to Sambalpur section of NH-6 from Km.199.200 at Bahargora Distt East Singhbhum, Jharkhand to km 311.000 at Singda, Dist Mayaurbhanj, Odisha at km.311.000 of NH-6 in the state of Jharkhand and Odisha. (F.No.10-26/2013-IA-III)**

The project road starts at existing Km 199.200 at Baharagora, Distt East Singhbhum, Jharkhand and ends at Km 311.000 at Singda, Distt Mayurbhanj, Odisha. The total existing length is 111.8 km and proposed length is 111.6 Km. The project road mostly passes through plain, rolling and hilly terrain. The landuse along the project road is predominantly Agriculture followed by forest and barren land and few sections of built-up areas. The proposal includes upgradation of existing 2 lane section to 4 lane configuration. The project road passes through East Singhbhum Distt of Jharkhand and Mayurbhanj Distt. Odisha. The project road passes through reserve forest patches at few sections, buffer zone of Similipal Tiger Reserve, transition zone of Similipal Biosphere Reserve and Mayurbhanj Elephant Reserve. The project road also falls within 10 kms from the boundary of Similipal Wildlife Sanctuary. Existing RoW is varying from 8.5 to 90 m and carriageway width is 7.0 m. Proposed RoW is 45 m with carriageway width of 14 m. The project requires approx. 445 ha of land to be acquired which includes 121 ha of forest land. Proposal for diversion of 121 ha forest land is with State Government of Odisha. There Exists 4 major bridge, 16 minor bridges and 202 nos culverts on the existing road. Proposal includes construction of 4 nos. new major bridge, 17 nos. minor bridges and 6 nos. new culverts with improvement and upgradation of the existing cross drainage structures. There is no existing ROB, VUP, Bypass and flyover. One new realignment is proposed at Bisoi and one Bypass is proposed at Jashipur. There are in total 9 major and 32 minor junctions present on the existing road. Proposal includes improvement of all these junctions with construction of two new major junctions. Two toll plazas are proposed at km 229.000 and km 306.050 (Design chainage). Approximately, 30,000 trees are present within proposed Right of way. However bare minimum trees are proposed to be felled. There are many streams crossing the project road.

The major one includes Subarnarekha river, Katra River, Andheri Rver, Bandhan river. Sulaipat and Bankbol water reservoir are present within 5 kms of project road. The major canal crossing the project road is Subarnarekha canal. Approximately, 4 lakh m<sup>3</sup> Sand & Aggregates, 25 k MT cement, 6.4 lac MT soil, 15.75 lakh m<sup>3</sup> borrow and 250 KLD water is required for construction of project road. Construction material will be sourced from govt. approved quarries and borrow areas identified along the project road. There is no thermal power plant within 100 km along the project road. Approximately, 598 nos. structures, 238 nos. households and 2087 PAPs are likely to get affected.

Total cost of the project is approximately Rs. 910 crores including civil cost, Environmental cost (Rs. 22 cr), land acquisition and R&R cost (Rs. 160 cr).

**During the discussions, the Committee finalized the following TOR for further study:**

- (i) *The project road is not passing through eco-sensitive areas, no wildlife Sanctuary within 10 km radius.*
- (ii) *The project indicates diversion of 121 ha forests. Necessary stage –I forestry clearance shall be obtained.*
- (iii) *It is indicated that about 30,000 nos. trees / plants falls in the ROW, however, minimum number of trees to be cut, the information should be provided about their species and whether it also involved any protected or endangered species. Necessary green belt shall be provided on both side of the highway with proper central verge and cost provision should be made for regular maintenance.*
- (iv) *Explore the possibilities of cool mixed technology instead of hot mixed technology*
- (v) *Submit the details of the road safety audit and plans for meeting the IRC safety requirements.*
- (vi) *The additional ToR and General Guidelines as per the annexure-I and Annexure-II respectively to this Minutes shall also be considered for preparation of EIA/EMP.*
- (vii) *Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website “<http://moef.nic.in/Manual/Highways>”.*

Public hearing to be conducted for the project as per provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan.

A detailed draft EIA/EMP report should be prepared as per the above additional TOR and should be submitted to the Ministry as per the Notification.

**4.35 Finalisation of ToRs for widening of existing carriageway to 4 laning of Singda to Telibani, section of NH-6 from Km.311.00 at Singda, Dist Mayaurbhanj to km.491.000 at Telibani Distt Deogarh in the state of Odisha. (F.No.10-27/2013-IA-III)**

The project road starts at existing Km 311.000, and ends at Km 491.000. The total existing length is 180 km and proposed length is 181.8 Km. The project road mostly passes through plain, rolling and hilly terrain. The land use along the project road is predominantly agriculture followed by forest land and barren land with few stretches of built-up areas. The proposal includes upgradation of existing 2 lane section to 4 lane configuration. The project road does not pass through or fall within 10 km boundary of any wildlife sanctuary, or any other eco-sensitive/ protected areas notified by the Government. However the project road passes through reserve forest and protected forest areas present at few locations along the road. The project road passes through Mayurbhanj, Keonjhar, Angul and Deogarh Distt.in the state of Odisha. Existing RoW is varying from 12 to 60 m and carriageway width is 7.0 m. Proposed RoW is 45 m with carriageway width of 14 m. The proposed project requires approx. 860 ha of land to be acquired, which includes approx. 203 ha of forest land. Proposal for diversion of 203 ha forest land is with State Government of Odisha. There are 9 existing major bridges and proposal includes construction of 5 nos. 4 lane bridges and 6 nos. additional 2 lane bridges parallel to existing bridges. There are 32 minor bridges and proposal includes construction of 17 nos. 4 lane and 17 nos. 2 lane minor bridges and widening of 9 minor bridges. There are 431 nos of existing Culverts and the proposal includes widening/improvement of all with construction of 31 new and dismantling of 4 culverts.

There is one existing ROB at Keonjhar. There is no VUP, Bypass and flyover on the existing road. One VUP and one new 4 lane ROB is proposed on Keonjhar Bypass. 2 new Bypasses are proposed at Keonjhar and Deogarh and one re-alignment is proposed at Pallahara. There are in total 10 major and 89 minor junctions present on the existing road. Proposal includes improvement of all these junctions and construction of 4 new major junctions. Two toll plazas are proposed at Km km 366.900 and km 439.700 (Design Chainage) Approximately, 35,000 trees are present within proposed Right of Way. However bare minimum trees are proposed to be felled. There are many streams crossing the project road. The major one includes Baitarni River, Brahmni River. Kanjhiri Dam Reservoir is within 15 km and Rengali Reservoir crosses the project road near Barkote. Approximately, 7.5 lakh m<sup>3</sup> Sand & Aggregates, 41 k MT cement, 10.3 lac m<sup>3</sup> soil, 2.6 lac MT bitumen and 400 KLD water is required for construction of road. Construction material will be sourced from govt. approved quarries and borrow areas identified along the project road. Approximately, 12000 m<sup>3</sup> flyash is required which will be sourced from OPGC power plant at Jharsuguda (if available). Approximately, 1002 nos. structures, 374 nos. households and 4436 nos. PAPs are likely to get affected.

Total cost of the project is approximately Rs. 1870 crores including Environmental cost (Rs. 33 cr), land acquisition and R&R cost (Rs. 360 cr).

**During the discussions, the Committee finalized the following TOR for further study:**

- (i) The project road is not passing through eco-sensitive areas, no wildlife Sanctuary within 10 km radius.*
- (ii) The project indicates diversion of 203 ha forests. Necessary stage –I forestry clearance shall be obtained.*
- (iii) It is indicated that about 35,000 nos. trees / plants falls in the ROW, however, minimum number of trees to be cut, the information should be provided about their species and whether it also involved any protected or endangered species. Necessary green belt shall be provided on both side of the highway with proper central verge and cost provision should be made for regular maintenance.*
- (iv) Explore the possibilities of cool mixed technology instead of hot mixed technology*
- (v) Submit the details of the road safety audit and plans for meeting the IRC safety requirements.*
- (vi) The additional ToR and General Guidelines as per the annexure-I and Annexure-II respectively to this Minutes shall also be considered for preparation of EIA/EMP.*
- (vii) Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website “<http://moef.nic.in/Manual/Highways>”.*

Public hearing to be conducted for the project as per provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan.

A detailed draft EIA/EMP report should be prepared as per the above additional TOR and should be submitted to the Ministry as per the Notification.

**4.36 Finalisation of ToRs for widening of existing carriageway to 2/4 laning of Telibani to Sambalpur section of NH-6 from Km.491.00 at village Tlibani, Dist Deogarh to km.566.200 at Sambalpur in the state of Odisha. (F.No.10-28/2013-IA-III)**

The project road starts at existing Km 491.000 and ends at Km 566.000 in district of Sambalpur, Odisha. The total existing length is 75 km and proposed length is 75.1 Km. The project road passes through plain, rolling and hilly terrain. The landuse along the project road is predominantly forestland followed by Agriculture and barren land. The proposal includes upgradation of existing 2 lane sections to 4 lane in non sanctuary area and strengthening of existing 2 lane section in sanctuary area. The project road passes through Deogarh and

Sambalpur district in the state of Odisha. The project road passes through reserve, protected forest areas and also through Badrma Wildlife Sanctuary for a length of a length of 20.5 km. Existing RoW is varying from 16 to 68 m and carriageway width is 7.0 m. Proposed RoW is 45 m except at section of road passing through Badrama Wildlife Sanctuary where widening will be restricted within existing Right of Way (Zero Diversion). The project requires approximate 235 ha of land to be acquired which includes approximate 25 ha of forest land. Proposal for diversion of 25 ha forest land is with State Government of Odisha. There are 3 existing major bridges and proposal includes construction of 1 new four lane and 2 additional two lane bridges parallel to existing bridges. There are 24 existing minor bridges and proposal includes construction of 5 four lane and 14 two lane minor bridges and widening of 4 minor bridges. There exist 170 culverts. The proposal includes improvement of all with construction of 4 new culverts and dismantling of 5 culverts. There are in total 5 major and 33 minor junctions present on the existing road. Proposal includes improvement of all these junctions with construction of 2 new junctions. There is no existing ROB, VUP, Bypass and flyover. One new Bypass at Jamankira (existing km 514.110 to 517.690) and 3 new Elephant underpasses are proposed. One Toll plaza is proposed at km 551.900 (Design Chainage).

Brahmani river crosses the project road near Barkot. Hirakud reservoir is also present within 15 km near Sambalpur. Approximately, 10,000 trees are present within proposed Right of Way. However bare minimum trees are proposed to be felled. Approximately, 8 lakh m<sup>3</sup> Sand & Aggregates, 12 k MT cement, 3 lac m<sup>3</sup> soil, 80 k MT bitumen and 100 KLD of water is required for construction of road. The construction material will be sourced from government approved quarries and borrow areas identified along the project road. Approximately, 3000 m<sup>3</sup> of Flyash is required which will be sourced from OPGC power plant at Jhasruguda (if available). Approximately, 170 structures 88 households and 548 PAPs are likely to get affected. The total project cost is approximately Rs. 440 Crores including Environmental Management & monitoring cost (Rs. 23 crores) and R&R cost (Rs.70 crores).

**During the discussions, the Committee finalized the following TOR for further study:**

- (i) *The project road passes through reserve, protected forests areas and also through Badrma WLS for a length of 20.5 km. Prior clearance from NBWL shall be obtained.*
- (ii) *The project indicates diversion of 25 ha forests. Necessary stage –I forestry clearance shall be obtained.*
- (iii) *It is indicated that about 10000. nos. trees / plants falls in the ROW, however, minimum number of trees to be cut, the information should be provided about their species and whether it also involved any protected or endangered species. Necessary green belt shall be provided on both side of the highway with proper central verge and cost provision should be made for regular maintenance.*

- (iv) *The alignment shall be modified to avoid water bodies.*
- (v) *Explore the possibilities of cool mixed technology instead of hot mixed technology*
- (vi) *Submit the details of the road safety audit and plans for meeting the IRC safety requirements.*
- (vii) *The additional ToR and General Guidelines as per the annexure-I and Annexure-II respectively to this Minutes shall also be considered for preparation of EIA/EMP.*
- (viii) *Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "<http://moef.nic.in/Manual/Highways>".*

Public hearing to be conducted for the project as per provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan.

A detailed draft EIA/EMP report should be prepared as per the above additional TOR and should be submitted to the Ministry as per the Notification.

#### **4.37 Finalisation of ToRs for Improvement of existing carriageway to Safer and Greener Highway from Delhi Haryana Border Km. 29.300 to Panipat Km. 86.000 of NH-44 (formally NH-1) in the state of Haryana. (F.No.10-29/2013-IA-III)**

The existing project road starts at km 29.300 of NH-44 (formerly NH-1) in Delhi/Haryana Border (Singhu Border) in the district of Sonipat and ends at km 86.00 in the district of Panipat of Haryana. The proposed and existing length is 56.700 km. Topography of the area is plain. The project road traverses through 12 settlements viz Kundli, Rasoi, Rai, Bahalgarh Murthal, Larsauli, Bari, Ganaur, Garhi Kalan, Patti Kalyana, Sambalkha, Sewaha and Panipat. Existing 6-lane carriageway configuration is 10.5 to 12.00 m with paved shoulder on either side from Km 29.32 to Km 86.00. Proposed configuration is 6-lane standards with provision of 5.5m to 7.0m service road on both sides. Existing right of way varies from 55m to 75m and Proposed Right of Way is 55m to 75m except for toll plaza (which will be 120 m). There is no eco sensitive zone or other notified protected area under Wild life Act, 1972 within 10 km of the project boundary. However, the proposed improvement falls within 10 km boundary of critically polluted area identified by CPCB. The total land acquisition proposed for the project is 2.62 ha which is agricultural land. The road side plantations are declared as protected forest and would involve diversion of 118.77 ha of PF land. There is existing 1 major bridge, 12 minor bridge, 3 flyovers and 2 PUPs, 31 pipe Culverts and 34 slab culverts. All these structures will remain in existing condition. The proposed measures of this project comprise of 9 flyovers, 6 FOBs, 4 VUPs, 2 CUPs, 6 PUPs, Trumpet interchange in 1 location (Ganaur) and widening of one bridge. The provisions of steel railing in the median and both side of the main carriageway at urban locations have been made for safety of road users besides provision of 24 minor bridges and 128

culverts on service road on either side. Land use pattern along the project road is predominantly agricultural (48.62%), followed by industries (12.89%), Village settlements (8.53%), and planned housing (6.02%) and seasonal water bodies (0.98%). 13,850 trees will be impacted due to this project. Common species are Eucalyptus, Babul, Neem and Mango along the project area. The total water requirement would be 200 KLD. Aggregate requirement is 10.26 lakh MT, Sand- 5.2 lakh MT, earthwork -11.0213 lakh cum for the proposed project. Soil is proposed to be taken from 11 borrow areas. 50,000 cum of flyash shall be used from Panipat and Badarpur TPPs if available.

Total cost of the project is Rs. 1117.68 Cr including civil cost, Environmental cost (Rs. 10.16 Cr) and shifting of utilities cost (Rs. 30.48 Cr).

**During the discussions, the Committee finalized the following TOR for further study:**

- (i) *The project road is not passing through eco-sensitive areas, no wildlife Sanctuary within 10 km radius.*
- (ii) *The project indicates diversion of 118.77 ha forests. Necessary stage –I forestry clearance shall be obtained.*
- (iii) *It is indicated that about 13,850. nos. trees / plants falls in the ROW, however, minimum number of trees to be cut, the information should be provided about their species and whether it also involved any protected or endangered species. Necessary green belt shall be provided on both side of the highway with proper central verge and cost provision should be made for regular maintenance.*
- (iv) *Explore the possibilities of cool mixed technology instead of hot mixed technology*
- (v) *Submit the details of the road safety audit and plans for meeting the IRC safety requirements.*
- (vi) *The additional ToR and General Guidelines as per the annexure-I and Annexure-II respectively to this Minutes shall also be considered for preparation of EIA/EMP.*
- (vii) *Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website “<http://moef.nic.in/Manual/Highways>”.*

Public hearing to be conducted for the project as per provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan.

A detailed draft EIA/EMP report should be prepared as per the above additional TOR and should be submitted to the Ministry as per the Notification.

**4.38 Finalisation of ToRs for Rehabilitation and Upgradation to 2-lane with Paved Shoulders of Biharsharif- Barbigha-Mokama, Section NH-82 In the state of Bihar. (F.No.10-30/2013-IA-III)**

The project road starts at Biharsharif (Km. 95+000) and ends at Mokama (Km. 149+000) Section on NH-82 in the state of Bihar. The project road passes through the boundary of three districts namely; Nalanda, Sheikhpura and Patna in the state of Bihar. The project road passes through important habitations which are Muraura, Mohamadpur, Mustaphapur, Balwapur, Asthama Market, Jirain, Kalia, Benar/Kalia, Sare, Gilani, Alinagar/ Surbat, Barbigha, Narainpur/Koiri Tola, Dayali Bigha, Sarmera Market, Sadha, Jhanki, Ghoswari, Gosai Gawn. The project road passes through plain terrain. The land use pattern of proposed RoW is predominantly agriculture land (74%) and built up 26%. Project road does not pass through National Park/ Wildlife Sanctuary or any area notified under Wildlife (Protection) Act, 1972. Existing ROW varies from 24-30m. There is no further land acquisition at existing project road except curve improvements and bypasses locations. Proposed ROW for bypasses is 45m. Total 64.5 ha private land is proposed to be acquired. Project road does not involve diversion of forest land.

The project crosses Jirain River at Km. 109+500. There are 4 major bridges, 23 minor bridges, in the existing project road. In which 1 major bridge, 16 minor bridges are proposed to be reconstructed. All 126 nos. of culverts would be reconstructed after dismantling. Proposed structures include 10 bus bays, 2 truck lay byes, 1 toll plaza, 4 major junctions, 43 minor junctions, and all safety measures in accordance with IRC: SP:55:2001, IRC:67-1977, IRC:79-1981,IRC:103-1988, IRC:35-1977. 415 Kld water proposed to be abstracted (70% from the surface and 30% from the ground). Total 1037 numbers of trees falls under proposed ROW, which needs to be felled for improvement of project road. Avenue plantation shall be carried out as per IRC: SP: 21-2009, apart from the statutory requirement based on available land in the rural areas. There is no thermal power plant within 100km from project road. So, no fly ash is to be used. About 635 structures are likely to be affected partially/completely. The Environment Management Cost is about Rs. 2.0 Crore, The civil cost is 193.50 Crore.

**During the discussions, the Committee finalized the following TOR for further study:**

- (i) *The project road is not passing through eco-sensitive areas, no wildlife Sanctuary within 10 km radius.*
- (ii) *It is indicated that about 1037 nos. trees / plants falls in the ROW, however, minimum number of trees to be cut, the information should be provided about their species and whether it also involved any protected or endangered species. Necessary green belt shall be provided on both side of the highway with proper central verge and cost provision should be made for regular maintenance.*
- (iii) *Explore the possibilities of cool mixed technology instead of hot mixed technology*
- (iv) *Submit the details of the road safety audit and plans for meeting the IRC safety*

*requirements.*

- (v) *The additional ToR and General Guidelines as per the annexure-I and Annexure-II respectively to this Minutes shall also be considered for preparation of EIA/EMP.*
- (vi) *Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "<http://moef.nic.in/Manual/Highways>".*

Public hearing to be conducted for the project as per provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan.

A detailed draft EIA/EMP report should be prepared as per the above additional TOR and should be submitted to the Ministry as per the Notification.

**4.39 Environmental Clearance for Widening & Improvement of Existing alignment to 4-lane with Paved Shoulder of Kaithal-Rajasthan Border (Kaithal km.33.250 to Narwana (km.0.000) NH-152 and Narwana (km.121.400) to Rajasthan Border (km.241.580) NH-65. F No.10-46/2012-IA.III**

The project road is widening & Improvement of Existing alignment to 4-lane with Paved Shoulder of Kaithal-Rajasthan Border (Kaithal km.33.250 to Narwana (km.0.000) NH-152 and Narwana (km.121.400) to Rajasthan Border (km.241.580) NH- 65 including borrow area in Haryana State. Total length of four lane road will be 165.759 Km. The land use along the project road is predominantly agricultural and built-up villages and towns. The percentage distribution of land use comprises vegetation 6.9 %, open vegetation 11.6 %, cultivated land 61.9 %, built-up land 18.2 %, road & rail network 1.2 % and river/water body 0.2 %. The existing Right of Way (RoW) is 20 m to 25 m. The proposed ROW is 60m except in built-up areas where it is 30 m and 45 m. 695.62 ha of land will be acquired for proposed up-gradation . The project road does not pass through reserved forest. However, project road will involve 169.8 ha diversion of protected forest land. The project road does not pass through any sensitive area like wildlife sanctuary, national park and bio-reserve. There is no environmental sensitive area within 10 km distance from the project road. Proposed up-gradation will involve construction of Kalayat Bypass (Km 15.100 to km 18.550 = 3.450 km), Narwana Bypass (Km 30.500 to km 32.400 = 1.900 km), Dhnaudha Bypass (Km 46.300 to km 50.100 = 3.800 km), Barwala Bypass (Km 70.100 to Km 77.950 = 7.850 km), Talwandi Rana and Hisar Bypass (Km 96.500 to Km 122.400 = 25.90 km), Barwa Bypass (Km 138.350 to Km 141.650 = 3.300 km) and Siwani Bypass (Km 143.500 to Km 149.650 = 6.150 km). Realignment are proposed at (km 130+400 to km 130+650), (km 140+360 to km 140+760), (km 142+600 to km 142+870), (km 217+500 to km 217+790), (km 218+120 to km 218+540), (km 230+520 to km 230+800), (km 232+050 to km 232+900) and (km 233+400 to km 235+300). Total length of realignments is 4.430 km. There is no major bridge, 13 existing minor bridges, 219 existing culverts (pipe, slab and box culverts) on the project road which will be widened and upgraded. Proposed up- gradation will involve construction of 13 minor bridges and 241 of culverts. There will 15 major junctions and 43 minor junctions, which are proposed to be improved. Five vehicular underpasses and 16

cattle/pedestrian underpasses have been proposed in the project road. Service lanes are proposed in 9.850 km length at 11 locations. Bus bays are proposed at 25 locations and truck lay byes at 3 locations have been proposed have been proposed. Toll plaza is proposed at three locations. Proposed up-gradation will involve 2.55 million cum coarse aggregates, 48,500 cum fine aggregates/sand and 5.8 million cum borrow earth. Approximately 50000 cum fly ash will be used from thermal power plant at Hisar. Toll plaza are proposed at three locations. Proposed up-gradation will involve 352 structures (houses and shops), which may be affected and compensated as per National Highways Act. With in ROW there are 43688 trees, however, 27453 trees are likely to be felled. The cost of implementation of EMP will be Rs 12.8 Crores. Land Acquisition and R&R Cost is estimated as Rs. 720 Crores. The civil construction cost of the project road is Rs. 1146.57 Crores.

The project was considered in EAC meeting held in June, 2012 and finalized ToR including conduct of Public Hearing. Public Hearing conducted on 21.05.2013 at PWD, Kalayat, Kaithal District, Narwana, Jind District, on 22.05.2013 at Hisar and Shiwani, Biwani District. Major issues raised during the Public Hearing area tree cutting, prevent construction in night *time, safety*. land acquisition and compensation.

**During the discussions, the Committee finalized the following TOR for further study:**

- (i) *The project road is not passing through / falling within 10 km of any eco-sensitive areas.*
- (ii) *The project indicates diversion of 169.8 ha forests. Necessary stage –I forestry clearance shall be obtained.*
- (iii) *It is indicated that 27453 nos. trees to be cut. Necessary permission from competent authority shall be obtained for tree cutting. Necessary compensatory plantation shall be carried out and cost provision should be made for regular maintenance.*
- (iv) *Explore the possibilities of using cold mix technology wherever possible particularly near wildlife sanctuary.*
- (v) *Rain water harvesting including oil and grease trap shall be provided. Water harvesting structures shall be located at every 500 mts along the road. Vertical drain type rainwater harvesting structures shall be set up to minimize surface runoff losses of rainwater.*
- (vi) *R&R shall be as per the guidelines of State/Central Government.*
- (vii) *IRC guidelines shall be followed for widening & up-gradation of road.*
- (viii) *The responses/commitments made during public hearing shall be complied with letter and spirit.*
- (ix) *All the recommendation of the EMP shall be complied with letter and spirit. All*

*the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO.*

***The Committee recommended the proposal for Environmental Clearance with the above condition in the Clearance letter for strict compliance by the project proponent***

**4.40 Finalisation of TORs for Rehabilitation & Upgradation of existing carriageway to 2 lane with paved shoulder from Chilpi – Simga stretch NH-12A (New NH-30) in the state of Chhattisgarh.(10-32/2013-IA.III)**

As presented by the project proponent, the project involves rehabilitation and upgradation of existing carriageway to 2 lane with paved shoulders from M.P. Border to Simga Section (Km 191+422 to Km 317.406, Total Length 125.984 Km) of NH-12A in the State of Chhattisgarh. The existing length of the project road is 125.984 Km and proposed/design length of the road after including realignments and other geometric improvements is 126.137 Km. Bypass/Realignment have been proposed at four locations along the project road, i.e.: Pondi Bypass: Total Length 4.256 Km, Kawardha Bypass: Total Length 3.550 Km, Bemetara Bypass: Total Length 6.805 Km and Simga Bypass: Total Length 2.372 Km. Existing carriageway is generally 7.0 - 7.3 m wide with exceptions at few locations where it is 10 m approx. The width of earthen shoulders are generally 1.5 to 2.5 m. The project road is passing through Boramdev Wildlife Sanctuary and the project road is also passing through Reserve forest area from km 192.422 to Km 210.520. Madhya Pradesh & Chhattisgarh State Boundary is within 5 Km arial distance from start of the project road. The project road start from Km 191.422 i.e. M.P. and Chhattisgarh border and traverses through Chilpi, Bodla, Modiya Pada, Lenja Khar, Pondi, Budhwara, Ramhepur, Harin Cahapr, Kawardha, Ranisagar, Birkona, Dharpura, Indauri, Dasarang Pur, Agari, Betar, Kanhera, Khurusbod, Garra, Baiji, Bemetara, Patharra, Zewara, Ranka, Kathia villages/Towns and ends at km 317.406 at Simga, thus having a total length of 125.984 Km. The project road passes through three Districts namely Bemetara, Kabirdham (Kawardha) and Raipur district. The entire project road lies in the state of Chhattisgarh. The project road is passing through patches of Protected Forest and Reserve Forest with total land acquisition in forest area of approx. 35.544 Ha. During two lane paved shoulder of the project road, drainage pattern will be maintained. There will be provision of 174 culverts and 27 Bridges for runoff movement. The proposed project involves trees cutting.

**During the discussions, the Committee finalized the following TOR for further study:**

- (i) *The project road passing through Boramdev WLS, Reserve Forests from km 191.422 to km 210.500. Prior clearance from NBWL shall be obtained.*
- (ii) *The project indicates diversion of 35.544 ha forests. Necessary stage –I forestry*

*clearance shall be obtained.*

- (iii) *Submitted the details of the trees to be cut, the information should be provided about their species and whether it also involved any protected or endangered species. Necessary green belt shall be provided on both side of the highway with proper central verge and cost provision should be made for regular maintenance.*
- (iv) *Explore the possibilities of cool mixed technology instead of hot mixed technology*
- (v) *Submit the details of the road safety audit and plans for meeting the IRC safety requirements.*
- (vi) *The additional ToR and General Guidelines as per the annexure-I and Annexure-II respectively to this Minutes shall also be considered for preparation of EIA/EMP.*
- (vii) *Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "<http://moef.nic.in/Manual/Highways>".*

***The Committee recommended the proposal for Environmental Clearance with the above condition in the Clearance letter for strict compliance by the project proponent***

#### **4.41 Finalisation of TORs for Rehabilitation & Upgradation of existing carriageway to 2 lane with paved shoulder from Bilaspur- Urdawal stretch NH-200 (New NH-49) in the state of Chhattisgarh (10-34/2013-IA.III)**

As presented by the project proponent, the project involves rehabilitation and upgradation of existing two lane carriageway to 2/4 laning from Km 127.650 to Km 306.928 of Bilaspur to Urdawal Section of NH-200 in the State of Chhattisgarh. The proposed length of 2/4 laning NH-200 in the state of Chhattisgarh is 179.278k. The existing length is 187.950 km. The project road passing through Bilaspur, Jajgir-Champa and Raigarh districts. 4-laning is proposed within the 24.40 37.4 m ROW in the stretches following existing alignment and 45m in realignment and bypass sections and toll plaza locations (140m). Approx 597.54 ha land will be acquired for the project road. Approx 5815 trees cutting involves for the project road. During construction phase, approx 170 KLD water will be required per day. No forest land/Wildlife Sanctuary/Eco-sensitive zone involves in the project road. The project road mainly passes through plain train except the stretches from km 240.00 to km 242.00 and km 244.00 to km 252 both of which are hilly terrain the alignment is generally straight, though some sharp horizontal curves are noticed. There are 51 villages and towns, 78 junctions. The stretches mainly comprises of major bridges at 5 locations, minor bridges at 42 locations, culverts at 275 locations. Also there are 4 nos. of proposed ROB on existing railway level

crossing along the project road. The project road is mainly 2-lane wide having a width of 7.0m, 4-lanes in some urban areas, with 7.0 m on both sides. The height of the embankment varies from 0.00m to 5.00 m. However, higher embankment exists at approaches to the bridges.

**During the discussions, the Committee finalized the following TOR for further study:**

- (i) *The project road is not passing through eco-sensitive areas, no wildlife Sanctuary within 10 km radius.*
- (ii) *The project indicates no involvement of forests land.*
- (iii) *It is indicated that about 5815 nos. trees / plants falls in the ROW, however, minimum number of trees to be cut, the information should be provided about their species and whether it also involved any protected or endangered species. Necessary green belt shall be provided on both side of the highway with proper central verge and cost provision should be made for regular maintenance.*
- (iv) *Explore the possibilities of cool mixed technology instead of hot mixed technology*
- (v) *Submit the details of the road safety audit and plans for meeting the IRC safety requirements.*
- (vi) *The additional ToR and General Guidelines as per the annexure-I and Annexure-II respectively to this Minutes shall also be considered for preparation of EIA/EMP.*
- (vii) *Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "<http://moef.nic.in/Manual/Highways>".*

Public hearing to be conducted for the project as per provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan.

A detailed draft EIA/EMP report should be prepared as per the above additional TOR and should be submitted to the Ministry as per the Notification.

#### **4.42 CRZ Clearance for laying of crude oil pipeline from Chennai Port to CPCL Refinery at Manali, Tamil Nadu by M/s Chennai Petroleum Corporation Ltd. [F.No. 10-78/2008-IA.III]**

Earlier, the proposal for laying of Crude Oil Pipeline from Chennai Port to CPCL Refinery at Manali, Tamil Nadu was examined by the EAC in its various meetings and observed that two stretches of pipeline are close to habitation. There were many representations from

Fishermen Association and Shri T.K.S Elangovan, MP (Lok Sabha) against the project. The EAC, therefore, suggested the proponent to consider alternate route so as to keep maximum distance between the habitation and pipeline. CPCL responded that the possibility of enhancing effective distance in the two stretches of the inhabited area were examined and proposed to go for Horizontal Directional Drilling (HDD) in these two stretches which will increase the depth to 10 mts against the earlier depth of 1.5 mts and thus increases the distance from habitation.

The revised proposal was examined and Tamil Nadu Coastal Zone Management Authority (TNCZMA) was requested to examine the revised proposal, conduct Public Hearing and to send the proceedings of Public Hearing and their recommendation.

The Tamil Nadu Coastal Zone Management Authority sent the recommendation on ..... and public hearing proceeding on 22.04.2013. Simultaneously, representation against the project were received from Kasimedu, Fisherman Associations.

The expert appraisal committee examined the public hearing proceeding, videos, recommendation of Tamil Nadu, CZMA and the response submitted by the project proponent in respect various issues raised by the public during public hearing as well as in the representations. Majority of the public demanded the CPCL to consider the pipeline route from Ennore instead from Chennai Port.

The Committee noted that about 250 mt. pipeline stretch at NTO Kuppam and about 300 meter stretch at Ramakrishna Nagar and Bharat Nagar are close to the habitation. As per the Minutes of the Meeting to Rehabilitation and Resettlement and Project Affected Families in Ennore, Manali Road improvement project held by the Principal Secretary to Government, Highways and Minor Port Department on 18.04.2013, 446 project affected families at NTO Kuppam is being rehabilitated under the Ennore, Manali Road Improvement Project. In the stretch at Ramakrishna Nagar and Bharat Nagar, the proponent proposed to increase the depth of laying of pipeline from 5 feet to 30 feet so as to increase the effective distance from the habitation.

The Committee noted that the alternative alignment from Ennore port as suggested by the Fisherman Association and the public during the public hearing also passes very close to the habitation at Netaji Nagar, Thazhankuppam and Petiakuppam as reported by the committee constituted by MoEF. Committee noted that proponent has proposed following advanced safety features:-

- The pipeline thickness is increased from 8 mm to 12.5 mm for increased strength.
- Pigging facility is provided to monitor the pipeline thickness to detect any corrosion in the pipeline so that preventive action can be taken to prevent occurrence of leakage.
- Cathodic protection to prevent external corrosion.
- Corrosion Inhibitor is provided to prevent internal corrosion.
- 3 Layered Polyethylene coating to prevent corrosion
- SCADA system is provided to continuously monitor the Crude flow with Automatic Shutdown of pumping in the event of any leak in the pipeline.

- Leak Detection System to identify any leaks with high accuracy of location is included in the project. This facility continuously monitors the Crude flow in the pipeline and immediately detects any leakage. On detection of the leakage, the systems will shut down the pipeline through remotely-operated valves.
- Nitrogen purging facility to evacuate the crude from pipeline is provided.

**During the discussion the following points emerged:**

- Proponent shall lay the pipeline at Ramakrishna Nagar and Bharat Nagar at minimum depth of 30 feet below ground.*
- The smooth and safe operation of the system shall be ensured by incorporating a computerized SCADA (Supervisory Control And Data Automation) system. Any leakage in the pipeline shall be immediately detected by the Computer system and product pumping shall be immediately cut off.*
- Proponent shall adopt advance safety measures as committed vide letter dated 11.06.2013 (copy enclosed).*
- Approval of the Chennai Port authorities shall be obtained for replacement of pipeline within the port premises.*
- Extra encasement for the stretch passing near the habitation and other sensitive places shall be provided so that no spillage under any accidental scenario including tsunami, earth quake, terrorist activity etc. is taken care of.*
- All the conditions stipulated by Tamil Nadu, CZMA shall be complied with.*

***The Committee recommended the proposal for CRZ Clearance with the above condition in the Clearance letter for strict compliance by the project proponent***

**4.43 EC and CRZ Clearance for setting up 10 MMTPA LNG Import, Storage and Re-gasification facilities at Gangavaram Port Limited, Visakhapatnam by M/s Petronet LNG Ltd [F.No. 11-12/2012-IA.III]**

**The Committee noted that the APCZMA has not recommended the project, hence the committee recommended to defer the consideration of project.**

**4.44 Environmental and CRZ Clearance for the expansion of Dhamra Port at Dhamra, Bhadrak Dist. of Orissa by M/s. Dhamra Port Company Ltd. [F.No.11-104/2009-IA.III]**

The EAC considered the project in its meeting held in November, 2009 and finalized ToR including the conduct of Public Hearing.

Public Hearing conducted on at 13.7. 2012. The State Coastal Zone Management Authority has recommended the project vide letter dated 20.12.2012.

EAC considered the project in December, 2012 and sought additional information viz. compliance of the EC conditions, revised map showing lat/long coordinates along the boundary of the project site. GPS coordinates for the mangrove area, details specifically regarding ballast disposal as proposed for the project vis-à-vis existing guidelines, Commitment for all the recommendations provided by OCZMA and NIO for protection of Kanika island and earmark specific amount for the conservation plan, analysis regarding 'dredge material disposal. Proponent submitted and presented the information.

**During the discussion the following points emerged:**

- (i) *Submit report on the complaint on sewage disposal in to agriculture land*
- (ii) *There shall be no acquisition of grazing / grave land for the project*
- (iii) *Submit detail on mangrove on either side along with the details on mangrove conservation plan*
- (iv) *Submit the details on drainage system*
- (v) *No housing component is permitted in CRZ, ie. Within 500m from HTL. Accordingly, the whole layout plan with CRZ lines shall be submitted in 1:4000 scale*
- (vi) *The dredging materials shall be at depths 25 m or more upto fillup of 30 cm or less. Initial and final sounding records for depth of the disposal sites and GPS records shall be maintained for vessels carrying out disposal. The disposal shall be carried out in the ebb tides and shall be ensured that water quality (SS less than 500 mg/l) is maintained during disposal near the vessel.*

*In view of the foregoing observations, the committee recommended to defer the proposal. The proposal shall be considered afresh after the above observations are addressed and submitted for reconsideration.*

**4.45 Environmental and CRZ Clearance for development of sea port Simar at Chhara village, Junagarh District, Gujarat by M/s. Simar Port Ltd. [F.No.11-73/2009-IA.III]**

*In view of the order of NGT, it was decided that in addition to the copy of order, the proponent may also circulate the copy of petition to the members. The consideration of the proposal was, therefore, deferred.*

**4.46 Finalisation of ToR for development of Nargol Port at Valsad District, Gujarat by M/s Cargo Motors Pvt. Ltd. (F. No. 11-4/2013-IA-III)**

The project was considered by the EAC in its meeting held in May, 2013 and sought shore line details of the site, statistics on fishing activities, revise the layout relocating only operational foreshore facilities in CRZ-IV and modify the design of approach to the berth so that to ensure 90% free flow. The details submitted and presented by the proponent where examined

by the committee. The committee noted that as per the shore line map submitted by the proponent the site is in stable coast.

During the discussions, the Committee finalized the following ToR for further study:

- (i) *Submit the layout along with the port boundary.*
- (ii) *Submit details of Risk Assessment, Disaster Management Plan including emergency evacuation during natural and man-made disaster like floods, cyclone, tsunami and earth quakes etc.*
- (iii) *Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scale along with the recommendation of the SCZMA.*
- (iv) *Submit the Hydrodynamic study*
- (v) *Submit the details of the reclamation along with the source of materials and its quantity & quality.*
- (vi) *Submit the details of shore line changes along with the shore protection if nay required.*
- (vii) *Submit details of Environmental Management Plan and Environmental Monitoring Plan with parameters and costs.*
- (viii) *Submit the details of the fishing activity and likely impact due to the activity.*
- (ix) *Details of land breakup along with land use plan and Details of green belt development.*
- (x) *Details of solid / liquid wastes generation and their management.*
- (xi) *Water requirement, source, impact on competitive users.*
- (xii) *Submit the details of the eco-sensitive areas, if any.*
- (xiii) *Submit the details of Oil Spill Contingent Management Plan.*
- (xiv) *Submit the details of dredging sludge quantity quality in terms of its toxic metals (atleast Cr+6, Arsenic, Mercury, and lead) and its disposal with quantity (reclamation/ dredging disposal site) If disposal is in sea, location, the justification for selecting such location, the dispersal of dumping material, its effect on marine environment, effect of fishes.*
- (xv) *Submit the details of study on connectivity and its carrying capacity (both road and railway).*

- (xvi) *The General guidelines as per the annexure-II to this Minutes shall also be considered for preparation of EIA/EMP.*
- (xvii) *Examine the impacts on marine environment & biological environment due to the development of proposed port.*
- (xviii) *Examine and submit details of wave modelling and Siltation analysis.*
- (xix) *Examine Social impact of the project on the nearby fishing habitations.*

Public hearing to be conducted for the project as per provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan.

A detailed draft EIA/EMP report should be prepared as per the above additional TOR and should be submitted to the Ministry as per the Notification.

**4.47 CRZ Clearance for onshore gas terminal at Mallavaram setting up of process cum living quarter platform at offshore in KG-OSN-2001/03, Andhra Pradesh and laying of 20 “underground Gas Pipeline along with OFC and 10” effluent disposal pipeline passing through CRZ area of Yanam-Puducherry by M/s Gujarat State Petroleum Corporation Ltd.(F.No. 11-21/2013 -IA.III)**

*The Committee noted that the EAC (T) has not cleared the project and the APCZMA has not recommended the project. Hence, committee recommended to defer the project.*

**4.48 Environmental and CRZ Clearance for development of LNG Terminal at Mundra Port, Kutch, Gujarat by M/s GSPC LNG Ltd. [F.No. 10-2/2009-IA.III]**

The committee noted that proposed development of LNG Terminal at Mundra Port, Kutch, Gujarat in within Port facilities of M/s Adani Port where there are various representations against the Port facility and few cases are also pending in the High Court of Gujarat. Ministry has constituted a Committee under the Chairmanship of Ms Sunita Narain in September, 2012 to examine the allegations. The Committee has submitted its report on 18.04.2013. There are certain observations and recommendations w.r.t the port Development where the LNG terminal is to come. MoEF is yet to take a view on the recommendations of the committee.

*In view of the above the committee recommended to defer the proposal till a final decision is taken on the recommendation of the above committee.*

**Construction of Chhatrapati Shivaji Statute in the Arabian Sea, Mumbai**

Member Secretary informed that the Government of Maharashtra has proposed to build a statue of about 300 feet for Chhatrapati Shivaji in the Arabian Sea, Mumbai. Since the activities viz. construction of statue, reclamation for commercial purposes such as shopping and housing complexes, hotels and entertainment activities are not permissible within CRZ area, Government of Maharashtra sought amendment to the CRZ Notification, 2011. Ministry had sought a detailed proposal so as to consider the amendment. Accordingly, the Govt of Maharashtra is preparing the project report. The MCZMA had finalized certain ToRs for preparing the project report and requested the Ministry to suggest any additional Study to be carried out for the preparation of the project report. Representative of the PWD, MMB, Government of Maharashtra, MS, MCZMA and NIO have attended the meeting and presented the concept of the project.

**The committee after discussion suggested the following:**

- (i) *The design shall not be isolate and Local architecture and motifs shall be appropriately incorporated in the design to portray the Indian heritage features in a place of tourist importance.*
- (ii) *More focus to be given on mitigation plan and safety/security*
- (iii) *Study on infrastructure facilities at shore and its impacts and mitigation to be carried.*
- (iv) *Examine impact due to floating population, entry point, traffic management including parking,*
- (v) *Examine emergency evacuation during natural calamity/ man made with required infrastructure stating time required for complete evacuation including safe landing under bad weather condition, jetty facility etc.*
- (vi) *Examine the EMP from similar projects*
- (vii) *Take advice from Bombay Natural History Society in respect of likely impacts due to lights on the birds, marine life.*
- (viii) *Submit the detail layout plan in 1:4000 scale including separate on-shore facilities*
- (ix) *Details of stone requirement for reclamation, quarry sources and transportation route may be provided*

**5. Recommended project**

**5.1 Environmental Clearance for proposed expansion of Taneja Aerospace and Aviation at Belagondapalli village Denkanikottai Taluk, Krishnagiri, Tamil Nadu by M/s Taneja Aerospace and Aviation Ltd. (F. No. 10-40/2012-IA.III)**

The project was considered by the EAC in its meeting held in March, 2013 and sought the details of Rain water Harvesting along with contour map, copy of consent order along with compliance status. The details submitted by the proponent were examined by the Committee.

***During the discussion, the following points emerged:***

- (i) *Hazardous waste shall be collected and disposed as per the Regulation.*
- (ii) *The treated sewage shall be recycled for flushing/ gardening , proper dual plumbing shall be provided.*
- (iii) *All the recommendation of the EMP shall be complied with letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to Ro, MoEF along with half yearly compliance report.*
- (iv) *Sewage and other liquid effluent generated should be treated as per the norms laid down by the State Pollution Control Board and recycled wherever possible.*
- (v) *The solid waste generated shall be properly collected, segregated and disposed as per the provision of Solid Waste (Management and Handling) Rules, 2000.*
- (vi) *Installation and operation of DG sets if any shall comply with the guidelines of CPCB.*
- (vii) *Energy conservation measures shall be taken up as per ECBC 2009.*
- (viii) *Water conservation fixtures shall be provided.*
- (ix) *Necessary permission shall be obtained for drawing of ground water from competent Authority prior to construction / operation of the project.*

***General on Highways.***

*The Committee noted that large number of widening of highways are being recommended for grant of clearance. It is noted that the widening of highways projects involves felling of large number of trees and compensatory plantations area suggested as a conditions. However, in reality, plantation and their survival is very poor. Therefore the Committee suggested that NHAI shall have third party audit on the compliance of conditions of EC especially tree cutting and compensatory plantation.*

**Model ToR for National Highway projects**

- (i) Examine and submit a brief description of the project, project name, nature, size, its importance to the region/state and the country.

- (ii) In case of diversion of forests land, OM dated 20.03.2013 may be followed. (Annexure-I)
- (iii) Any litigation(s) pending against the proposed project and/or any directions or orders passed by any court of law/any statutory authority against the project is to be detailed out.
- (iv) Submit detailed alignment plan, with details such as nature of terrain (plain, rolling, hilly), land use pattern, habitation, cropping pattern, forest area, environmentally sensitive places, mangroves, notified industrial areas, sand dunes, sea, river, lake, details of villages, teshils, districts and states, latitude and longitude for important locations falling on the alignment by employing remote sensing techniques followed by ground truthing and also through secondary data sources.
- (v) Describe various alternatives considered, procedures and criteria adopted for selection of the final alternative with reasons.
- (vi) Submit Land use map of the study area to a scale of 1: 25,000 based on recent satellite imagery delineating the crop lands (both single and double crop), agricultural plantations, fallow lands, waste lands, water bodies, built-up areas, forest area and other surface features such as railway tracks, ports, airports, roads, and major industries etc. and submit a detailed ground surveyed map on 1:2000 scale showing the existing features falling within the right of way namely trees, structures including archeological & religious, monuments etc. if any.
- (vii) If the proposed route is passing through any hilly area, examine and submit the stability of slopes, if the proposed road is to pass through cutting or embankment / control of soil erosion from embankment.
- (viii) If the proposed route involves tunneling, the details of the tunnel and locations of tunneling with geological structural fraction should be provided. In case the road passes through a flood plain of the river, the details of micro drainage, flood passages and information on flood periodicity at least of last 50 years in the area should be examined.
- (ix) If the project is passing through / located within 10km. or the ecological sensitive area of protected area (National park/Wildlife Sanctuary/ conservation reserve/community reserve) a Prior clearance from National Board of Wild life, Hon'ble Supreme Court shall be obtained.
- (x) Study regarding the Animal bypasses / underpasses etc. across the habitation areas shall be carried out. Adequate cattle passes for the movement of agriculture material shall be provided at the stretches passing through habitation areas. Underpass shall be provided for the movement of Wild animals.
- (xi) The information should be provided about the details of the trees to be cut including their species and whether it also involved any protected or endangered species. Measures taken

to reduce the number of the trees to be removed should be explained in detail. Submit the details of compensatory plantation. Explore the possibilities of relocating the existing trees.

- (xii) Necessary green belt shall be provided on both side of the highway with proper central verge and cost provision should be made for regular maintenance.
- (xiii) If the proposed route is passing through a city or town, with houses and human habitation on the either side of the road, the necessity for provision of bypasses/diversions/under passes shall be examined and submitted. The proposal should also indicate the location of wayside amenities, which should include petrol station/service centre, rest areas including public conveyance, etc.
- (xiv) Submit details about measures taken for the pedestrian safety and construction of underpasses and foot-over bridges along with flyovers and interchanges.
- (xv) Assess whether there is a possibility that the proposed project will adversely affect road traffic in the surrounding areas (e.g. by causing increases in traffic congestion and traffic accidents).
- (xvi) Examine and submit the details of use of fly ash in the road construction, if the project road is located within the 100 km from the Thermal Power Plant.
- (xvii) Explore the possibilities of utilising the debris/ waste materials available in and around the project area.
- (xviii) Submit the details on compliance with respect to Research Track Notification of MoRTH
- (xix) Examine and submit the details of sand quarry, borrow area as per OM dated 18.12.2012.on 'Rationalization of procedure for Environmental Clearance for Highway Projects involving borrow areas for soil and earth.'
- (xx) Climate and meteorology (max and min temperature, relative humidity, rainfall, frequency of tropical cyclone and snow fall); the nearest IMD meteorological station from which climatological data have been obtained to be indicated.
- (xxi) The air quality monitoring should be carried out as per the new notification issued on 16<sup>th</sup> November, 2009. Input data used for Noise and Air quality modeling shall be clearly delineated.
- (xxii) The base line data used for the EIA shall be not more than one year old.
- (xxiii) Identify project activities during construction and operation phases, which will affect the noise levels and the potential for increased noise resulting from this project. Discuss the effect of noise levels on near by habitation during the construction and

operational phases of the proposed highway. Identify noise reduction measures and traffic management strategies to be deployed for reducing the negative impact if any. Prediction of noise levels should be done by using mathematical modeling at different representative locations.

- (xxiv) Examine the impact during construction activities due to generation of fugitive dust from crusher units, air emissions from hot mix plants and vehicles used for transportation of materials and prediction of impact on ambient air quality using appropriate mathematical model, description of model, input requirement and reference of derivation, distribution of major pollutants and presentation in tabular form for easy interpretation shall be carried out.
- (xxv) Also examine and submit the details about the protection to existing habitations from dust, noise, odour etc. during construction stage.
- (xxvi) If the proposed route involves cutting of earth, the details of area to be cut, depth of cut, locations, soil type, volume and quantity of earth and other materials to be removed with location of disposal/ dump site along with necessary permission.
- (xxvii) If the proposed route is passing through low lying areas, details of fill materials and initial and final levels after filling above MSL, should be examined and submit.
- (xxviii) Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, quality likely impacts on them due to the project along with the mitigation measures.
- (xxix) Examine and submit details of water quantity required and source of water including water requirement during the construction stage with supporting data and also classification of ground water based on the CGWA classification.
- (xxx) Examine and submit the details of measures taken during constructions of bridges across river/canal/major or minor drains keeping in view the flooding of the rivers and the life span of the existing bridges. Provision of speed breakers, safety signals, service lanes and foot paths should be examined at appropriate locations through out the proposed road to avoid the accidents.
- (xxxii) If there will be any change in the drainage pattern after the proposed activity, details of changes shall be examined and submitted.
- (xxxiii) Rain water harvesting pit should be at least 3 - 5 m. above the highest ground water table. Provision shall be made for oil and grease removal from surface runoff.
- (xxxiiii) If there is a possibility that the construction/widening of road will cause impact such as destruction of forest, poaching, reductions in wetland areas, if so, examine the impact and submit details.

- (xxxiv) Submit the details of road safety, signage, service roads, vehicular under passes, accident prone zone and the mitigation measures.
- (xxxv) IRC guidelines shall be followed for widening & upgradation of road.
- (xxxvi) Submit details of social impact assessment due to the proposed construction of road.
- (xxxvii) Examine road design standards, safety equipment specifications and Management System training to ensure that design details take account of safety concerns and submit the traffic management plan.
- (xxxviii) Accident data and geographic distribution should be reviewed and analyzed to predict and identify trends – incase of expansion of the existing highway and provide Post accident emergency assistance and medical care to accident victims.
- (xxxix) If the proposed project involves any land reclamation, details to be provided for which activity land to reclaim and the area of land to be reclaimed.
- (xl)Details of the properties, houses, businesses etc. activities likely to be effected by land acquisition and their financial loses annually.
- (xli) Detailed R&R plan with data on the existing socio-economic status of the population in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternative livelihood concerns/employment and rehabilitation of the displaced people, civil and housing amenities being offered, etc and the schedule of the implementation of the project specific
- (xlii) Submit details of Corporate Social Responsibility. Necessary provisions should be made in the budget.
- (xliii) Estimated cost of the project including environmental monitoring cost and funding agencies, whether governmental or on the basis of BOT etc and provide details of budget provisions (capital & recurring) for the project specific R&R Plan.
- (xliv) Submit environmental management and monitoring plan for all phases of the project viz. construction and operation.

### **General Guidelines**

- i) The EIA document shall be printed on both sides, as for as possible.

- ii) The status of accreditation of the EIA consultant with NABET/QCI shall be specifically mentioned. The consultant shall certify that his accreditation is for the sector for which this EIA is prepared.
- iii) On the front page of EIA/EMP reports, the name of the consultant/consultancy firm along with their complete details including their accreditation, if any shall be indicated. The consultant while submitting the EIA/EMP report shall give an undertaking to the effect that the model TORs have been complied with and the data submitted is factually correct (Refer MoEF office memorandum dated 4<sup>th</sup> August, 2009).
- iv) While submitting the EIA/EMP reports, the name of the experts associated with/involved in the preparation of these reports and the laboratories through which the samples have been got analysed should be stated in the report. It shall clearly be indicated whether these laboratories are approved under the Environment (Protection) Act, 1986 and the rules made there under (Please refer MoEF office memorandum dated 4<sup>th</sup> August, 2009). The project leader of the EIA study shall also be mentioned.
- v) All the TOR points as presented before the Expert Appraisal Committee (EAC) shall be covered.
- vi) *Environmental Management Plan presented before the EAC as a part of EIA report, shall be made part of Concessionaire Agreement/ other relevant documents. Proponent shall submit an undertaking in this regard.*
- vii) *Since most of the environmental issues are related to design parameters, following additional information should also be sought under Chapter-II ( Disclosure of Consultant)*
- viii) *Name of the Design Consultant*
- ix) *Name of the EIA consultant, EIA Coordinator, Functional Area Expert and detail of accreditation.*
- x) *The EIA report shall be prepared as per the EIA Notification, 2006 as amended time to time.*

Public hearing to be conducted for the project as per provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addresses in the Environmental Management Plan.

Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website “<http://moef.nic.in/Manual/highways>”

### ***Annexure-I***

- (i) *Any litigation(s) pending against the proposed project and/or any directions or orders passed by any court of law/any statutory authority against the project is to be detailed out.*
- (ii) *Submit detailed alignment plan, with details such as nature of terrain (plain, rolling, hilly), land use pattern, habitation, cropping pattern, forest area, environmentally sensitive places, mangroves, notified industrial areas, sand dunes, sea, river, lake, details of villages, teshils, districts and states, latitude and longitude for important locations falling on the alignment by employing remote sensing techniques followed by ground truthing and also through secondary data sources.*
- (iii) *Describe various alternatives considered, procedures and criteria adopted for selection of the final alternative with reasons.*
- (iv) *Submit Land use map of the study area to a scale of 1: 25,000 based on recent satellite imagery delineating the crop lands (both single and double crop), agricultural plantations, fallow lands, waste lands, water bodies, built-up areas, forest area and other surface features such as railway tracks, ports, airports, roads, and major industries etc. and submit a detailed ground surveyed map on 1:2000 scale showing the existing features falling within the right of way namely trees, structures including archeological & religious, monuments etc. if any.*
- (v) *If the proposed route is passing through any hilly area, examine and submit the stability of slopes, if the proposed road is to pass through cutting or embankment / control of soil erosion from embankment.*
- (vi) *If the proposed route involves tunneling, the details of the tunnel and locations of tunneling with geological structural fraction should be provided. In case the road passes through a flood plain of the river, the details of micro drainage, flood passages and information on flood periodicity at least of last 50 years in the area should be examined.*
- (vii) *The projects is located within 10km. of the sanctuary a map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden thereon should be furnished at the stage of EC.*

- (viii) *Study regarding the Animal bypasses / underpasses etc. across the habitation areas shall be carried out. Adequate cattle passes for the movement of agriculture material shall be provided at the stretches passing through habitation areas.*
- (ix) *If the proposed route is passing through a city or town, with houses and human habitation on the either side of the road, the necessity for provision of bypasses/diversions/under passes shall be examined and submitted. The proposal should also indicate the location of wayside amenities, which should include petrol station/service centre, rest areas including public conveyance, etc.*
- (x) *Submit details about measures taken for the pedestrian safety and construction of underpasses and foot-over bridges along with flyovers and interchanges.*
- (xi) *Assess whether there is a possibility that the proposed project will adversely affect road traffic in the surrounding areas (e.g. by causing increases in traffic congestion and traffic accidents).*
- (xii) *Examine and submit the details of use of fly ash in the road construction, if the project road is located within the 100 km from the Thermal Power Plant.*
- (xiii) *Examine and submit the details of sand quarry, borrow area and rehabilitation.*
- (xiv) *Climate and meteorology (max and min temperature, relative humidity, rainfall, frequency of tropical cyclone and snow fall); the nearest IMD meteorological station from which climatological data have been obtained to be indicated.*
- (xv) *The air quality monitoring should be carried out as per the new notification issued on 16<sup>th</sup> November, 2009.*
- (xvi) *Identify project activities during construction and operation phases, which will affect the noise levels and the potential for increased noise resulting from this project. Discuss the effect of noise levels on near by habitation during the construction and operational phases of the proposed highway. Identify noise reduction measures and traffic management strategies to be deployed for reducing the negative impact if any. Prediction of noise levels should be done by using mathematical modeling at different representative locations.*
- (xvii) *Examine the impact during construction activities due to generation of fugitive dust from crusher units, air emissions from hot mix plants and vehicles used for transportation of materials and prediction of impact on ambient air quality using appropriate mathematical model, description of model, input requirement and reference of derivation, distribution of major pollutants and presentation in tabular form for easy interpretation shall be carried out.*
- (xviii) *Also examine and submit the details about the protection to existing habitations from dust, noise, odour etc. during construction stage.*

- (xix) *If the proposed route involves cutting of earth, the details of area to be cut, depth of cut, locations, soil type, volume and quantity of earth and other materials to be removed with location of disposal/ dump site along with necessary permission.*
- (xx) *If the proposed route is passing through low lying areas, details of fill materials and initial and final levels after filling above MSL, should be examined and submit.*
- (xxi) *Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, quality likely impacts on them due to the project.*
- (xxii) *Examine and submit details of water quantity required and source of water including water requirement during the construction stage with supporting data and also classification of ground water based on the CGWA classification.*
- (xxiii) *Examine and submit the details of measures taken during constructions of bridges across river/canal/major or minor drains keeping in view the flooding of the rivers and the life span of the existing bridges. Provision of speed breakers, safety signals, service lanes and foot paths should be examined at appropriate locations through out the proposed road to avoid the accidents.*
- (xxiv) *If there will be any change in the drainage pattern after the proposed activity, details of changes shall be examined and submitted.*
- (xxv) *Rain water harvesting pit should be at least 3 - 5 m. above the highest ground water table. Provision shall be made for oil and grease removal from surface runoff.*
- (xxvi) *If there is a possibility that the construction/widening of road will cause impact such as destruction of forest, poaching, reductions in wetland areas, if so, examine the impact and submit details.*
- (xxvii) *Submit the details of road safety, signage, service roads, vehicular under passes, accident prone zone and the mitigation measures.*
- (xxviii) *IRC guidelines shall be followed for widening & upgradation of road.*
- (xxix) *Submit details of social impact assessment due to the proposed construction of road.*
- (xxx) *Examine road design standards, safety equipment specifications and Management System training to ensure that design details take account of safety concerns and submit the traffic management plan.*

- (xxxi) *Accident data and geographic distribution should be reviewed and analyzed to predict and identify trends – incase of expansion of the existing highway and provide Post accident emergency assistance and medical care to accident victims.*
- (xxxii) *If the proposed project involves any land reclamation, details to be provided for which activity land to reclaim and the area of land to be reclaimed.*
- (xxxiii) *Details of the properties, houses, businesses etc. activities likely to be effected by land acquisition and their financial loses annually.*
- (xxxiv) *Detailed R&R plan with data on the existing socio-economic status of the population in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternative livelihood concerns/employment and rehabilitation of the displaced people, civil and housing amenities being offered, etc and the schedule of the implementation of the project specific*
- (xxxv) *Submit details of Corporate Social Responsibility. Necessary provisions should be made in the budget.*
- (xxxvi) *Estimated cost of the project including environmental monitoring cost and funding agencies, whether governmental or on the basis of BOT etc and provide details of budget provisions (capital & recurring) for the project specific R&R Plan.*
- (xxxvii) *Submit environmental management and monitoring plan for all phases of the project viz. construction and operation.*

## **Annexure-II**

### **General Guidelines**

- (i) *The EIA document shall be printed on both sides, as for as possible.*
- (ii) *The status of accreditation of the EIA consultant with NABET/QCI shall be specifically mentioned. The consultant shall certify that his accreditation is for the sector for which this EIA is prepared.*
- (iii) *On the front page of EIA/EMP reports, the name of the consultant/consultancy firm along with their complete details including their accreditation, if any shall be indicated. The consultant while submitting the EIA/EMP report shall give an undertaking to the effect that the prescribed TORs (TOR proposed by the project proponent and additional TOR given by the MoEF) have been complied with and the data submitted is factually correct (Refer MoEF office memorandum dated 4<sup>th</sup> August, 2009).*

- (iv) *While submitting the EIA/EMP reports, the name of the experts associated with/involved in the preparation of these reports and the laboratories through which the samples have been got analysed should be stated in the report. It shall clearly be indicated whether these laboratories are approved under the Environment (Protection) Act, 1986 and the rules made there under (Please refer MoEF office memorandum dated 4<sup>th</sup> August, 2009). The project leader of the EIA study shall also be mentioned.*
- (v) *All the TOR points as presented before the Expert Appraisal Committee (EAC) shall be covered.*
- (vi) *Environmental Management Plan presented before the EAC as a part of EIA report, shall be made part of Concessionaire Agreement/ other relevant documents. Proponent shall submit an undertaking in this regard.*
- (vii) *Since most of the environmental issues are related to design parameters, following additional information should also be sought under Chapter-II ( Disclosure of Consultant)  
Name of the Design Consultant, Name of the EIA consultant, EIA Coordinator, Functional Area Expert and detail of accreditation .*

125<sup>th</sup> Meeting of the Expert Appraisal Committee for Building/Construction Projects/Township and Area Development Projects, Coastal Regulation Zone, Infrastructure Development and Miscellaneous projects held on 10<sup>th</sup> - 12<sup>th</sup> June, 2013 at India Islamic Centre, Lodhi Raod, New Delhi.

### **List of Participants**

#### **Expert Committee**

- |                          |                  |
|--------------------------|------------------|
| 1. Shri Naresh Dayal     | Chairman         |
| 2. Dr. M.L. Sharma       | Vice Chairman    |
| 3. Dr. Apurba Gupta      | Member           |
| 4. Shri V.G.Koshy        | Member           |
| 5. Dr. S.P. Bansal       | Member           |
| 6. Dr. H.S. Ramesh       | Member           |
| 7. Dr. Y. Basavaraju     | Member           |
| 8. Dr. Neeraj Sharma     | Member           |
| 9. Shri Bala Subramaniam | Member           |
| 10. Shri Lalit Kapur     | Member Secretary |

#### **MoEF officials**

- |                              |                     |
|------------------------------|---------------------|
| 10. Shri E. Thirunavukkarasu | Scientist 'C', MoEF |
| 11. Shri Amardeep Raju       | Scientist 'C', MoEF |

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