MINUTES OF THE 45th MEETING OF THE EXPERT APPRAISAL COMMITTEE (INFRASTRUCTURE-2) HELD ON 17-18 OCTOBER, 2019

Venue: Conference Hall (Narmada), Jal Wing, Ground Floor, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 3

Day- 1: Thursday 17th October, 2019

Time: 11:00 AM

45.1 Opening Remarks of the Chairman

45.2 Confirmation of the Minutes of the 44th Meeting of the EAC (Infra-2) held during 23-25 September, 2019 at New Delhi.

The minutes of the 44th Meeting of the EAC (Infra-2) held during 23-25 September, 2019, was confirmed with the following corrections:

Agenda item No.	Minuting	Correction/To be read as
Agenda item no. 44.4.2. of 44th Meeting held during 23-25 September, 2019 (IA/DL/MIS/114283/2019; F.No. 21-70/2019-IA-III)	Para 44.4.2.3. (v) The project proponents would devise a monitoring plan to the satisfaction of the State Pollution Control Board so as to continuously monitor the treated waste water being used for flushing in terms of faecal coliforms and other pathogenic bacteria. (vi) The project proponents would commission a third party study on the implementation of conditions related to quality and quantity of recycle and reuse of treated water, efficiency of treatment systems, quality of treated water being supplied for flushing (specially the bacterial counts), comparative bacteriological studies from toilet seats using recycled treated waters and fresh waters for flushing, and quality of water being supplied through spray faucets attached to toilet seats.	Para 44.4.2.3. (v) Deleted (vi) Deleted

45.3 Consideration of Proposals

Agenda item No. 45.3.1.

Group Housing Project 'Parsvnath La Tropicana' Magazine Road, Khyber Pass, New Delhi by M/s Parsvnath Landmark Developers Pvt Ltd - Terms of Reference

(IA/DL/NCP/118623/2019; F.No.21-73/2019-IA-III)

45.3.1.1. The project proponent and the accredited Consultant M/s Grass Roots Research and Creation (GRC) India (P) Ltd gave a detailed presentation on the salient features of the project and informed that:

(i) The project is located at Magazine Road, Khyber Pass, Delhi. Latitude 28°41'45.50"N and Longitude 77°13'20.99"E.

(ii) The project is new. The project was earlier granted Environment Clearance by MoEF vide letter F. No. 21-494/2006-IA-III dated 2nd July, 2007 for Plot area 68,168.36 sqm (16.84 acre) and Built-up area 1,33,824.44 sqm. The validity of the Environment Clearance was extended by SEIAA, Delhi vide letter no. DPCC/EC/7451/09/04/2014 dated 03rd June, 2014 for same plot and built-up area as of previous EC i.e. Plot area 68,168.36 sqm (16.84 acre) and Built-up area 1,33,824.44 sqm, The validity of the extended EC letter expires on 02nd June, 2019.

(iii) The total plot area is 68,158.35 sqm.FSI area is 1,33,804.382 sqm and total construction area of 2,19,365.762 sqm. Maximum height of the building is 125.65 m.

(iv) The total water requirement for the construction of Project is estimated to be approx. 439 ML. The water supply during Construction phase will be met through Private water tanker. During the

construction phase, soak pits and septic tanks are provided for disposal of waste water. Temporary toilets will be provided for labourers.

(v) During operational phase, total water demand of the project is estimated to be 383 KLD and the same will be met by the Delhi Jal Board (DJB). Wastewater generated (247 KLD) uses will be treated in STP of total 300 KL capacity. About 198 KLD of treated wastewater will be generated from which 86 KLD will be used for flushing, 95 KLD for gardening, and remaining 17 KLD will be sent to municipal drain during non-rainy season.

(vi) About 1732 kg/day solid waste will be generated from the project. The biodegradable waste (1039 kg/day) will be processed in OWC, Inert waste (173 kg/day) will be used for land filling and the non-biodegradable waste generated (520 kg/day) will be handed over to vendors.

(vii) The total power requirement during operation phase is 4.9 MVA and will be met from Tata Power Delhi Distribution Limited (TPDDL).

(viii) Parking facility for 3256 no. of four wheelers are proposed to be provided against the requirement of 2676 No.(according to local norms).

(ix) Energy will be saved using energy efficient lighting fixtures, Electronic Ballast, Timer based lighting and APFC Panel.

(x) It is not located within 10 km of Eco Sensitive areas. Hence, NBWL clearance is not required.

(xi) There is no court case pending against the project

(xii) Estimated Cost of the project is Rs. 738 Crores.

45.3.1.2. The EAC noted the following:-

(i) The proposal is for grant of Terms of Reference to the project Group Housing Project 'Parsvnath La Tropicana' Magazine Road, Khyber Pass, New Delhi by M/s Parsvnath Landmark Developers Pvt Ltd for plot area 68,158.35 sqm and total built-up area of 2,19,365.762 sqm.

(ii) The project/activity is covered under category 'B' of item 8(b) 'Townships and Area Development projects' of the Schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at State level. However, due to absence of SEIAA/SEAC in Delhi, the proposal has been appraised at Central level by sectoral EAC.

45.3.1.3. The project proponent informed the EAC that M/s Parsvnath Landmark Developers Pvt Ltd is the developer of 'Parsvnath La Tropicana' a Group Housing Project at Magazine Road, Khyber Pass, Delhi. The project was earlier granted Environment Clearance by MoEFCC vide letter F.No. 21-494/2006-IA-III dated 02nd July, 2007 for Plot area 68,168.36 sqm (16.84 acre) and Built-up area 1,13,824.44 sqm. The validity of above Environment Clearance (EC) was extended by SEIAA, Delhi vide letter no. DPCC/EC/7451/09/04/2014 dated 03rd June, 2014 for five years from the date of expiry earlier EC i.e. upto 01st July, 2017. CTE obtained from Delhi Pollution Control Committee vide letter no. DPCC/CMC/2009/19783 dated 16.03.2009 and letter no. DPCC/CMC/2014/34764 dated 01.08.2014. The proposal is now being made for completion of balance built-up area (of earlier EC) and additional proposed built-up area. The total proposed built-up area is 2,19,365.762 sqm and plot area measures 68,158.35 sqm.

The EAC noted that the proposal is of expansion while the project proponent has applied in new category. The EAC after detailed deliberation asked the project proponent to submit following:

- Revised Form-1 and Pre-Feasibility Report.
- Comparative details of the existing project and proposed expansion.

In view of the foregoing observations, the EAC recommended to defer the proposal. The proposal shall be reconsidered after the above details are addressed and submitted.

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Agenda item No. 45.3.2.

Proposed Commercial Cum Multiplex With MLCP Block PD Plot, Jasola Apollo Metro Station, Sarita Vihar, Mathura Road, New Delhi by M/s DMRC Ltd through lessee M/s Pacific Development Corporation Ltd – Environmental Clearance

(IA/DL/MIS/119584/2019; F.No.21-75/2019-IA-III)

45.3.2.1. The project proponent and the accredited Consultant M/s Ambiental Global Pvt Ltd gave a detailed presentation on the salient features of the project and informed that:

(i) The project is located at Block PD Plot, Jasola Apollo Metro Station, Sarita Vihar, Mathura Road, New Delhi. Latitude 28°32'15.20"N and Longitude 77°16'58.52"E.

(ii) The project is new. The total plot area is 16,888.650 sqm, FSI area is 16,779.722 sqm and total construction (Built-up) area of 50,938.232 sqm. The project will comprise of 1 Buildings. Total NA flats shall be developed. Maximum height of the building is 33.05 m. The details of building are as follows:

S. No	Buildings	No of Basement	No of Floors
1.	Tower 1	0	6 (LGF+ Lower Mezzanine Floor + G+4)
2.	Multilevel car Parking	0	9the level with terrace floor

(iii) During construction phase, total water requirement is expected to be 724 KL which will be met by nearby CSTP through private water tanker during the construction phase, soak pits and septic tanks will be provided for disposal of waste water. Temporary sanitary toilets will be provided during peak labour force.

(iv) During operational phase, total water requirement of the project is expected to be 168 KLD and the same will be met by Municipal/Bore well /STP. 26 KLD fresh water from Municipal/Bore well and 142 KLD Recycled Water. Wastewater generated (80 KLD) will be treated in MBBR STPs of total 150 KLD capacity 72 KLD of treated wastewater will be recycled and re-used (59 KLD for flushing and 13 KLD for gardening). Additional 70 KLD treated waste water requirements will be taken by the nearby CSTP for the fulfilment of water demand for horticulture and HVAC cooling in dry season & Monsoon. No treated water will be disposed in to municipal drain.

(v) About 0.776 TPD solid wastes will be generated in the project. The biodegradable waste (0.465 TPD) will be processed in OWC and the non-biodegradable waste generated (0.311 TPD) will be handed over to authorized local vendor.

(vi) The total power requirement during construction phase is 204 KVA and will be met from BSES and total power requirement during operation phase is 3000 kVA, which will be supplied by 2 transformers of capacity 1500 kVA each with unitized substation and will be met from BSES.

(vii) Rooftop rainwater of buildings will be collected in 05 RWH Pits for harvesting after filtration.

(viii) Parking facility for 675 four wheelers and 0 two wheelers is proposed to be provided against the requirement of 540 and 338 respectively (according to local norms).

(ix) Proposed energy saving measures would save about 1% of power.

(x) Asola Wild Life Sanctuary (Eco-Sensitive Zone) lies at 5.08 km, South of the project site and Okhla Bird Sanctuary is 3.82 km, North East. The project site is outside the ESZ boundary of Asola Wildlife Sanctuary and Okhla Bird Sanctuary. Hence, NBWL Clearance is not required.

(xi) Forest Clearance is not required.

(xii) No court case is pending against the project.

(xiii) Investment/Cost of the project is Rs. 102 Crore.

(xiv) Employment potential: 396 persons.

(xv) Benefits of the project: Employment, Natural resource conservation.

45.3.2.2. The EAC noted the following:-

(i) The proposal is for grant of Environmental Clearance to the project Proposed Commercial Cum Multiplex With MLCP Block PD Plot, Jasola Apollo Metro Station, Sarita Vihar, Mathura Road, New Delhi by M/s DMRC Ltd through lessee M/s Pacific Development Corporation Ltd for plot area 16,888.65 sqm and total built-up area of 50,938.232 sqm.

(ii) The project/activity is covered under category 'B' of item 8(a) 'Building and Construction projects' of the Schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at State level. However, due to absence of SEIAA/SEAC in Delhi, the proposal has been appraised at Central level by sectoral EAC.

45.3.2.3. *The project proponent informed the EAC that the proposed project site is "Commercial Cum Multiplex With Multi Level Car Parking" located at Block PD Plot, Jasola Apollo Metro Station, Sarita Vihar, Mathura Road, New Delhi. The Proposed Project "Commercial Cum Multiplex with Multi Level Car Parking" is spread over an area of 16,888.65 Sq.m (4.17 acres). The Proposed Project "Commercial Cum Multiplex with Multi Level Car Parking" will be developed by M/S DMRC Ltd Through Lessee M/S Pacific Development Corporation Limited. The project comprises of Multiplex, Shops, Food Court and Multi Level Car parking.*

The EAC deliberated upon the information provided by the project proponent. After deliberation, the EAC sought following additional information for further deliberation on the proposal:

(i) Submit revised water balance.

(ii) Submit Revised parking details.

(iii) An assessment of the cumulative impact of all development and increased inhabitation being carried out or proposed to be carried out by the project or other agencies in the core area, shall be made for traffic densities and parking capabilities in a 05 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up through an organization of repute and specializing in Transport Planning shall be submitted with the EIA. The Plan to be implemented to the satisfaction of the State Urban Development and Transport Departments shall also include the consent of all the concerned implementing agencies.

(iv) Details of area/space provided for STP and Solid Waste Management as per applicable rules/norms with proper justification that the area/space provided is adequate as per the technology proposed

(v) Submit revised Plan for Corporate Environment Responsibility (CER) as specified under Ministry's Office Memorandum vide F.No. 22-65/2017-IA.III dated 1st May, 2018.

In view of the foregoing observations, the EAC recommended to defer the proposal. The proposal shall be reconsidered after the above details are addressed and submitted.

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Agenda item No. 45.3.3.

"150 Bedded Hospital" Besides Archana Cinema, Public Building Site no. 1, Greater Kailash-1, New Delhi by M/s Lal Chand Public Charitable Trust - Environmental Clearance

(IA/DL/MIS/114924/2019; F.No.21-74/2019-IA-III)

45.3.3.1. The project proponent and the accredited Consultant M/s Perfact Enviro Solutions Pvt Ltd gave a detailed presentation on the salient features of the project and informed that:

(i) The project will be located at Latitude 28°33'14.68"N and Longitude 77°13'50.95"E.

(ii) The proposed project is a new project. Total plot area of 4,046.86 sqm, FSI area is 13214.246 sqm and built-up area of the project is 26,427.553 sqm. The project will comprise 01 no. of tower. Total G+11 nos. of floors will be developed. Maximum height of the building is 56.5 m. The details of the project is given below:-

PARTICULARS	Unit	Details
Plot Area	sqm	4046.86
Total Basement Area	sqm	8962.482
Total Built-up Area	sqm	26427.553
Total Green Area (30%)	sqm	1215.014
Total Open & Road Area	sqm	1327.44

SERVICE DETAILS		
No of IPD beds	No.	150
No of OPD Patient	No.	1200
Staff	No.	600
Visitors	No.	2500
Total Population	No.	4450
No of Towers	No.	1
Number of Basements	No.	4
Maximum No. of Floors	No.	G+11
Max. height of building	m	45.0
Building height for architectural feature	m	56.5

(iii) During construction phase, total water requirement is expected to be 12 KLD for domestic & construction purpose which will be met by treated water nearby STP. During the construction phase, soak pits and septic tanks will be provided for disposal of waste water. Temporary sanitary toilets will be provided during peak labour force.

(iv) During operational phase, the total water requirement of the project will be 311 KLD out of which fresh water requirement will be 150 KLD which will be met through Delhi Jal Board. The total waste water generation will be 182 KLD (Sewage-163 KLD; Laboratory and Laundry Waste water-19 KLD) for Domestic, kitchen, RO & filter backwash, flushing, gardening, hot water generator, cooling & mopping. The waste water will be treated in Sewage Treatment Plant (STP) of capacity 240 KLD & 19 KLD waste water from Laboratory & Laundry will be treated in ETP of capacity 25 KLD. Treated water from STP will be reused in flushing, gardening hot water generator, cooling & mopping. 19 KLD of treated wastewater from ETP will be sent to STP.

(v) Total 0.714 TPD (714 kg/day) of solid waste will be generated from the hospital. Biodegradable waste of 0.428 TPD (428 kg/day) will be treated in Organic waste converter with in the hospital and non- biodegradable waste of 0.143 TPD (143 kg/day) and recyclable waste of 0.143 TPD (143 kg/day) will be given to approved vendor. 0.30 kL/annum of used oil will be generated. E-waste generation will be 0.024-0.36 tons/annum which will be given to Authorised recycler. Biomedical waste generation from hospital will be 21 TPA (56 kg/Day) which will be given to authorized vendor.

(vi) The total power requirement during construction will be met from DG set of 125 kVA. The total power requirement of the hospital will be 2253 (2503.3 kVA) which will be met by Delhi DISCOM BSES Rajdhani Power Ltd. In case of power failure, power backup will be provided through D.G sets of 1x1010 kVA, 1x500 kVA. Hence to reduce the air emissions proper stack height of 6 m above roof level will be provided as per prescribed norms by CPCB.

(vii) Rooftop rainwater of buildings will be collected in 2 RWH pit of total 87 KLD capacity for harvesting after filtration

(viii) Parking facility for 310 ECS four wheelers and two wheelers is proposed to be provided against the requirement of 264 ECS. For Ambulance Parking & Differently abled will be provided in Surface Parking. Two wheelers and Four wheelers parking will be provided in basement.

(ix) There are two Eco-sensitive areas within 10 km radius of the project. i.e. Asola Wildlife Sanctuary is at a distance of 6.45 km SSE from the project site & Okhla Bird Sanctuary is at a distance 8.54 km SEE from the project site. The ESZ boundary of Okhla Bird Sanctuary is 100 m to 1.27 Km & Asola Wildlife Sanctuary is 1 Km. Hence, NBWL Clearance is not required.

(x) Forest Clearance is not required.

(xi) There is no Court case pending against the project.

(xii) Cost of the project is Rs. 215 Crores

(xiii) Employment potential: Labourers during construction phase 150 no. and about 600 personnel as hospital staff during operation phase.

(xiv) Benefits of the project: It will be a Super-speciality hospital. The hospital will provide world class medical facilities to patients. It will also provide 24x7 Ambulance facility. The Hospital will provide employment to labourers during construction phase and employment to personnel working in the hospital during the operation phase. The Hospital will also enhance the infrastructure of the area. Hospital will have treatment facilities for oncology, nephrology, neurology, orthopaedics and cardiology etc. It will provide medical facilities to patients.

45.3.3.2. The EAC noted the following:-

(i) The proposal is for grant of Environmental Clearance to the project "150 Bedded Hospital" Besides Archana Cinema, Public Building Site no. 1, Greater Kailash-1, New Delhi by M/s Lal Chand Public Charitable Trust for plot area 4,046.86 sqm and total built-up area of 26,427.553 sqm.

(ii) The project/activity is covered under category 'B' of item 8(a) 'Building and Construction projects' of the Schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at State level. However, due to absence of SEIAA/SEAC in Delhi, the proposal has been appraised at Central level by sectoral EAC.

45.3.3.3. *The project proponent informed the EAC that the proposal is for construction of "150 Bedded Hospital" located besides Archana Cinema, Public Building Site no. 1, Greater Kailash-1, New Delhi. The project will be developed by Lal Chand Public Charitable Trust. The land has been given on perpetual lease to Lal Chand Public Charitable Trust for the development of Hospital Building. The total plot area of the project is 4,046.86 sqm and the built-up area is 26,427.553 sqm. The maximum no. of floors will be G+11. The maximum height of the building (including architectural feature as per AAI) will be 56.5 m. The project activities includes 150 Bed IPD, OPD, Day care, Emergency (casualty), Laboratories, Operation theatres (OT), Intensive care units (ICU). The project proponent informed the Committee that Total number of existing trees is 20. Out of which, 11 trees is to be retained and 9 trees will be cut/transplanted. Total trees proposed to be planted at site are 44.*

The EAC during deliberation noted that another proposal for construction of "150 Bedded Hospital" Besides Archana Cinema, Public Building Site no. 2, Greater Kailash-1, New Delhi by M/s Lal Chand Public Charitable Trust was already appraised and recommended by the EAC in its 42nd meeting held during 10-12 July, 2019.

The EAC after detailed deliberation asked the project proponent to submit following:

(i) Justification for proposing two similar projects at same plot by same proponent with supporting document.

(ii) Approved building plan for the instant project.

(iii) Revised water balance for the project.

(iv) Details of area/space provided for STP as per applicable rules/norms with proper justification that the area/space provided is adequate as per the technology proposed.

In view of the foregoing observations, the EAC recommended to defer the proposal. The proposal shall be reconsidered after the above details are addressed and submitted.

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Agenda item No. 45.3.4.

Integrated Treatment Storage and Disposal Facility for Hazardous Waste at Plot No. 158 to 164, KIADB Kadechur Industrial Estate Village Kadechur, Tehsil and District Yadgir, Karnataka by M/s Mother Earth Environ Tech Private Limited - Amendment in Environmental Clearance

(IA/KA/MIS/73814/2018; F.No. 10-37/2018-IA-III)

45.3.4.1. The project proponent gave a detailed presentation on the salient features of the project and informed that:

(i) M/s Mother Earth Environ Tech Pvt Ltd Bangalore (MEEPL) had proposed an Integrated Treatment, Storage and Disposal Facility (TSDF) for hazardous waste (HW) under the Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016 (Hazardous Waste Rules) in 158 to 164 of industrial plots within approved Industrial Estate (IE) of Karnataka Industrial Area Development Board (KIADB), Kadechur, Taluka and District Yadgir, Karnataka.

(ii) The proposed integrated TSDF will comprise a secured landfill of 1.21 million MT and an incinerator of 12 T/day (Phase I – Stationary hearth type), expandable to 24 T/day, Phase II - Rotary kiln primary chamber type) treatment and terminal disposal of hazardous waste, along with essential utilities and amenities.

(iii) MEEPL had been granted the Environmental clearance vide letter F.No 10-37/2018-IA-III dated 19th July, 2019 by the Ministry of Environment, Forest and Climate Change (MoEE&CC), New Delhi.

(iv) An amendment is now being sought for the Para 2(iii) of the EC in view of the inadvertent error that has crept in. The caption "Area for the Solid Waste Management" of 3.567 Ha be removed and the rest of the components remain as given below.

(v) The amendment sought for in the para 2(iii) of the EC letter F.No.10-37/2018-IA-III dated 19th July, 2019 may be corrected as follows.

Description of Activity	Land Requirement (Ha)
Hazardous Waste Management including Incineration, Landfill and other associated utilities	6.57
Built up Area	0.663
Green Belt	5.4
Total in Ha	12.633

45.3.4.2. The EAC noted the following:-

(i) The proposal is for grant of amendment in Environmental Clearance accorded to the project Integrated Treatment Storage and Disposal Facility for Hazardous Waste at Plot No. 158 to 164, KIADB Kadechur Industrial Estate Village Kadechur, Tehsil and District Yadgir, Karnataka by M/s Mother Earth Environ Tech Private Limited.

(ii) The project/activity is covered under category A of item 7(d) 'Common hazardous waste treatment, storage and disposal facilities (TSDFs)' of the Schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at Central level by sectoral EAC.

(iii) Environmental clearance to the project has been granted by MoEF&CC vide letter F.No 10-37/2018-IA-III dated 19th July 2019.

45.3.4.3. *The EAC noted that M/s Mother Earth Environ Tech Private Limited (MEEPL) had been granted the Environmental clearance by MoEFCC vide letter F.No. 10-37/2018-IA-III dated 19th July, 2019 by the Ministry of Environment, Forest and Climate Change (MoEE&CC), New Delhi. Now the project proponent has sought an amendment in the Para 2(iii) of the environmental clearance letter dated 19th July, 2019. The EAC after being satisfied with the submission of the project proponent recommended following amendment in the Environmental Clearance issued vide letter F.No. 10-37/2018-IA-III dated 19th July, 2019:*

Para 2(iii) of the EC letter dated 19th July, 2019 shall be read as:

Total Area requirement for the project is 12.633 Ha. The details are as follows:

Details proposed as per EC dated 19th July, 2019		**Details recommended**	
Description of Activity	**Land Requirement (Ha)**	**Description of Activity**	**Land Requirement (Ha)**
Landfill	6.57	Hazardous Waste Management including Incineration, Landfill and other associated utilities	6.57
Green belt	5.4	Green Belt	5.4
Built up area	0.663	Built up Area	0.663
Area for SWM	3.567	**-**	
Total	16.2	**Total in Ha**	**12.633**

All the other Terms and conditions stipulated in the Environmental Clearance letter F.No. 10-37/2018-IA-III dated 19th July, 2019 shall remain unchanged.

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Agenda item No. 45.3.5.

Integrated Common Hazardous Waste Treatment, Storage, Disposal & Recycling Facility at Industrial Growth Center (IGC), Maneri Village, Mandla District, Madhya Pradesh by M/s Ramky Enviro Engineers Limited - Terms of Reference

(IA/MP/MIS/117811/2019; F.No.10-40/2019-IA-III)

45.3.1.1. The project proponent and the accredited Consultant M/s Ramky Enviro Services Pvt Ltd gave a detailed presentation on the salient features of the project and informed that:

(i) Ramky Enviro Engineers Limited (REEL) proposes to establish an Integrated Common Hazardous Waste Treatment, Storage, Disposal & Recycling Facility in an area of 19.77 acres (8 Ha.) at plot no. 11, 12, 13, 14, 18, 19, 20, 21, 27, 28, 29, 31, 32, 33, 34, 35, 36, 43 and 44, at Industrial Growth Centre (IGC), Maneri (V), Mandla (D), Madhya Pradesh.

(ii) Facilities proposed to be developed as part of this project include:

S. No.	**Facility**	**Capacity**
1	Secured Landfill (Direct Landfill)	250 TPD
2	Landfill after Treatment	400 TPD
3	Incineration*	55 TPD
4	Bio Medical Waste Treatment	12.5 TPD
5	Alternative Fuel and Raw Material Facility (AFRF)	55 TPD
6	E-Waste Recycling Facility (with Precious Metal Recovery)	82 TPD
7	Drum Decontamination Recycling Plant	10 TPD
8	Used / Spent Oil Recycling Facility	54 KLD
9	Lead Recycling Facility	65 TPD
10	Paper Recycling Facility	10 TPD
11	Plastics Recycling Facility	10 TPD
12	Solvent Recovery Facility	27 KLD
13	Aluminium Dross Reprocessing Facility	165 TPD
14	Spent Pot Liner (Carbon Portion) Reprocessing Facility	165 TPD
15	Spent Pot Liner (Refractory Portion) Reprocessing and Disposal Facility	165 TPD
16	Renewable Energy	2 MW
17	Waste to Energy	2 MW

(iii) As per the Notification issued by the Ministry of Environment, Forest and Climate Change

(MoEF&CC) S.O. 1533, dated 14.09.2006 and its subsequent amendments, the proposed project falls under Project Activity 7(d) - Common Hazardous Waste Treatment, Storage and Disposal Facilities (TSDFs), Category 'A' - All Integrated facilities having incineration and landfill or Incineration alone.

(iv) It is proposed to develop greenbelt in an area of not less than 33% of the total area. Greenbelt shall be developed with specific species as per CPCB's 'Guidelines for Developing Greenbelts (PROBES/75/1999-2000)'.

(v) The capital cost for the proposed project is estimated to be Rs. 40 Crores.

(vi) The total water requirement is estimated to be about 120 KLD, which will be met through Audyogik Kendra Vikas Nigam (Jabalpur) Limited/tankers/borewell. It is proposed to treat all the wastewater and leachate within the project premises and it is proposed to reuse the treated water (Zero Liquid Discharge).

(vii) The power requirement is estimated to be about 375 kVA. Power will be supplied by Madhya Pradesh State Electricity Board (MPSEB) and sufficient quantity of DG sets will be used for emergency power backup.

(viii) It is proposed to equip the incinerator facility with Continuous Emission Monitoring System (CEMS) and the emission data shall be transmitted to SPCB/CPCB.

45.3.5.2. The EAC noted the following:-

(i) The proposal is for grant of Terms of Reference to the project Integrated Common Hazardous Waste Treatment, Storage, Disposal & Recycling Facility at Industrial Growth Center (IGC), Maneri Village, Mandla District, Madhya Pradesh by M/s Ramky Enviro Engineers Limited.

(ii) The project/activity is covered under category A of item 7(d) 'Common hazardous waste treatment, storage and disposal facilities (TSDFs)' of the Schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at Central level by sectoral EAC.

45.3.5.3. *The project proponent informed the EAC that M/s Ramky Enviro Engineers Limited (REEL), considering the increasing trend in hazardous waste generation in the state of Madhya Pradesh, and considering the need for different disposal/recycling methods for different waste streams, proposes to establish an Integrated Common Hazardous Waste Treatment, Storage, Disposal & Recycling Facility in an area of 19.77 acres (8 hectares) at plot no. 11, 12, 13, 14, 18, 19, 20, 21, 27, 28, 29, 31, 32, 33, 34, 35, 36, 43 and 44 (total 19 plots) at Industrial Growth Centre (IGC), Maneri Village, Mandla District, Madhya Pradesh (Notified Industrial Area).*

After detailed deliberations on the proposal, the Committee recommended for grant of Terms of Reference as specified by the Ministry as Standard ToR in April, 2015 for the said project/activity and the following ToR in addition to Standard ToR for preparation of EIA-EMP report:

(i) Importance and benefits of the project.

(ii) The E.I.A. would address to the conformity of site to the stipulations as made in the Hazardous and other Wastes (Management, handling and trans-boundary movement) Rules, 2016 and will have a complete chapter indicating conformity to the said rules.

(iii) Project proponents would also submit a write up on how their project proposal conform to the stipulations made in the "Protocol for Performance evolution and monitoring of the Common Hazardous Waste Treatment Storage and Disposal facilities including common Hazardous Waste incinerators", published by the CPCB on May 24, 2010.

(iv) Status of compliance to the provisions of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, and Bio-Medical Waste Management Rules, 2016.

(v) Details of various waste management units with capacities for the proposed project.

(vi) List of waste to be handled and their source along with mode of transportation.

(vii) Other chemicals and materials required with quantities and storage capacities.

(viii) Details of temporary storage facility for storage of hazardous waste at project site.

(ix) Details of pre-treatment facility of hazardous waste at TSDF.

(x) Details of air emissions, effluents, hazardous/solid waste generation and their management.

(xi) Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).

(xii) Process description along with major equipments and machineries, process flow sheet (quantitative) from waste material to disposal to be provided.

(xiii) Hazard identification and details of proposed safety systems.

(xiv) Details of Drainage of the project up to 5 km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided.

(xv) Ground water quality monitoring in and around the project site.

(xvi) The Air Quality Index shall be calculated for base level air quality.

(xvii) Status of the land purchases in terms of land acquisition Act and study the impact.

(xviii) Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.

(xix) R&R details in respect of land in line with state Government policy.

(xx) Details of effluent treatment and recycling process.

(xxi) Leachate study report and detailed leachate management plan to be incorporated.

(xxii) Action plan for measures to be taken for excessive leachate generation during monsoon period.

(xxiii) Action plan for any pollution of ground water is noticed during operation period or post closure monitoring period.

(xxiv) Detailed Environmental Monitoring Plan as well as Post Closure Monitoring Plan.

(xxv) Submit details of Bio Medical Waste to be handled and the other facilities operating within 75 km area.

(xxvi) A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project.

(xxvii) A detailed Plan for green belt development.

(xxviii) A certificate from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.

(xxix) Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.

(xxx) The project proponents shall satisfactorily address to all the complaints/suggestions that have been received against the project till the date of submission of proposals for Appraisal.

(xxxi) Plan for Corporate Environment Responsibility (CER) as specified under Ministry's Office Memorandum vide F.No. 22-65/2017-IA.III dated 1st May 2018 shall be prepared and submitted along with EIA Report.

(xxxii) A tabular chart with index for point wise compliance of above ToRs.

It was recommended that 'ToR' prescribed by the Expert Appraisal Committee (Infrastructure-2) should be considered for preparation of EIA / EMP report for the above mentioned project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. The Committee exempted Public hearing as per para 7(i) III Stage (3)(i)(b) of EIA Notification, 2006 for preparation of EIA/EMP Report.

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Agenda item No. 45.3.6.

Odisha Waste Management Project – Unit II (Integrated Common Hazardous Waste Treatment Storage and Disposal Facility) at Lakhanpur, Jharsuguda District, Odisha by M/s Ramky Enviro Engineers Limited - Terms of Reference

(IA/OR/MIS/117885/2019; F.No.10-41/2019-IA-III)

45.3.6.1. The project proponent and the accredited Consultant M/s Ramky Enviro Services Pvt Ltd gave a detailed presentation on the salient features of the project and informed that:

(i) Odisha Waste Management Project (Division of Ramky Enviro Engineers Ltd) proposes for of Odisha Waste Management Project – Unit II (Integrated Common Hazardous Waste Treatment Storage and Disposal Facility) with an investment of Rs.45 Crores. The site is located at Plot no. 1351, Tingismal Village, Lakhanpur tehsil, Jharsuguda District, Odisha with land area of 63.3 acres. The site is connected with NH-49 located adjacent to the site.

(ii) The details of project capacities proposed to be developed are given below-

S. No	Name of the Facility	Proposed capacity
1	Secured Landfill (Direct to Landfill)	300 TPD
2	Landfill After Treatment	400 TPD
3	Hazardous Waste Incineration	55 TPD
4	Bio Medical Waste	12.5 TPD
5	AFRF	55 TPD
6	E Waste	82 TPD
7	Drum / Decontamination Recycling Plant	10 TPD
8	Used Oil Recycling	54 KLD
9	Spent Oil Recycling	27 KLD
10	Lead Recycling	65 TPD
11	Paper Recycling	10 TPD
12	Plastic Recycling	10 TPD
13	Solvent Recovery	27 KLD
14	Aluminium Dross	165 TPD
15	SPL (Carbon Portion)	165 TPD
16	SPL (Refractory Portion)	165 TPD
17	Renewable Energy	2 MW
18	Waste to Energy	2 MW

(iii) The total water requirement for the project is 94 KLD. The water will be sourced from bore wells and tankers.

(iv) The power required for operations is 375 kVA which will be taken from Odisha State Electricity Board. DG set of 375 kVA capacity will be used as backup power during emergency requirement.

(v) The effluent generated from facility shall be treated in the Effluent Treatment plant and reused in incinerator, scrubber/quencher. The domestic waste water generated shall be treated in the soak pit followed by septic tank or mobile STP. There will not be wastewater discharge outside the premises of the facility as zero liquid discharge concepts will be adopted.

(vi) Solid waste generated within the premises shall be disposed off in incinerator. For the proposed incinerator, Continuous Emission Monitoring System (CEMS) will be installed and the online emission data generated will be transmitted simultaneously to SPCB/CPCB.

(vii) The capital cost allocated for EMP is around Rs 4.5 Crores with a recurring cost of Rs 0.4 Crores/annum.

45.3.6.2. The EAC noted the following:-

(i) The proposal is for grant of Terms of Reference to the project Odisha Waste Management Project – Unit II (Integrated Common Hazardous Waste Treatment Storage and Disposal Facility) at Lakhanpur, Jharsuguda District, Odisha by M/s Ramky Enviro Engineers Limited.

(ii) The project/activity is covered under category A of item 7(d) 'Common hazardous waste treatment, storage and disposal facilities (TSDFs)' of the Schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at Central level by sectoral EAC.

45.3.6.3. *The project proponent informed the EAC that with rapid industrialization in various districts of the state, the need for TSDFs has also elevated. To bridge the yawning gap in demand and availability of hazardous waste treatment facilities, ICHWTSDF along with recycling facilities has been proposed. On the directive of OSPCB, Odisha Industrial Infrastructure Development Corporation (IDCO), has entered an agreement with M/s Ramky Enviro Engineers Ltd. (REEL) to establish the proposed facility in Tingismal Village, Lakhanpur Tehsil, Jharsuguda District.*

After detailed deliberations on the proposal, the Committee recommended for grant of Terms of Reference as specified by the Ministry as Standard ToR in April, 2015 for the said project/activity and the following ToR in addition to Standard ToR for preparation of EIA-EMP report:

(i) Importance and benefits of the project.

(ii) The E.I.A. would address to the conformity of site to the stipulations as made in the Hazardous and other Wastes (Management, handling and trans-boundary movement) Rules, 2016 and will have a complete chapter indicating conformity to the said rules.

(iii) Project proponents would also submit a write up on how their project proposal conform to the stipulations made in the "Protocol for Performance evolution and monitoring of the Common Hazardous Waste Treatment Storage and Disposal facilities including common Hazardous Waste incinerators", published by the CPCB on May 24, 2010.

(iv) Status of compliance to the provisions of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, and Bio-Medical Waste Management Rules, 2016.

(v) Details of various waste management units with capacities for the proposed project.

(vi) List of waste to be handled and their source along with mode of transportation.

(vii) Other chemicals and materials required with quantities and storage capacities.

(viii) Details of temporary storage facility for storage of hazardous waste at project site.

(ix) Details of pre-treatment facility of hazardous waste at TSDF.

(x) Details of air emissions, effluents, hazardous/solid waste generation and their management.

(xi) Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).

(xii) Process description along with major equipments and machineries, process flow sheet (quantitative) from waste material to disposal to be provided.

(xiii) Hazard identification and details of proposed safety systems.

(xiv) Details of Drainage of the project up to 5 km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency

based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided.

(xv) Ground water quality monitoring in and around the project site.

(xvi) The Air Quality Index shall be calculated for base level air quality.

(xvii) Status of the land purchases in terms of land acquisition Act and study the impact.

(xviii) Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.

(xix) R&R details in respect of land in line with state Government policy.

(xx) Details of effluent treatment and recycling process.

(xxi) Leachate study report and detailed leachate management plan to be incorporated.

(xxii) Action plan for measures to be taken for excessive leachate generation during monsoon period.

(xxiii) Action plan for any pollution of ground water is noticed during operation period or post closure monitoring period.

(xxiv) Detailed Environmental Monitoring Plan as well as Post Closure Monitoring Plan.

(xxv) Submit details of Bio Medical Waste to be handled and the other facilities operating within 75 km area.

(xxvi) A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project.

(xxvii) A detailed Plan for green belt development.

(xxviii) A certificate from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.

(xxix) Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.

(xxx) The project proponents shall satisfactorily address to all the complaints/suggestions that have been received against the project till the date of submission of proposals for Appraisal.

(xxxi) Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.

(xxxii) Plan for Corporate Environment Responsibility (CER) as specified under Ministry's Office Memorandum vide F.No. 22-65/2017-IA.III dated 1st May, 2018 shall be prepared and submitted along with EIA Report.

(xxxiii) A tabular chart with index for point wise compliance of above ToRs.

It was recommended that 'ToR' along with Public Hearing prescribed by the Expert Appraisal Committee (Infrastructure-2) should be considered for preparation of EIA/EMP report for the above mentioned project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. The draft EIA/EMP report shall be submitted to the State Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report.

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Agenda item No. 45.3.7.

Karaikal Waste Management Project, Pondicherry a unit division of M/s Ramky Enviro Engineers Ltd at Village Polagam, District Karaikal, Pondicherry by M/s Ramky Enviro Engineers Limited – Terms of Reference

(IA/PY/MIS/117849/2019; F.No.10-42/2019-IA-III)

45.3.7.1. The project proponent and the accredited Consultant M/s Ramky Enviro Services Pvt Ltd gave a detailed presentation on the salient features of the project and informed that:

(i) Integrating the environmental protection with industrialization bolsters sustainable development of a nation. Appropriately it was proposed to establish an Integrated Common Hazardous Waste Treatment, Storage Disposal and Recycling Facility (ICHWTSDRF) by M/s Ramky Enviro Engineers Limited in Pondicherry. The anticipated project "Karaikal Waste Management Project" has been proposed to be established at Survey No's: A, A 29, A 31, A 52, A 53, A 58, A 59, A 60, A 61, A 62, A 63, A 64, A 65, A 66, A 67, A78, A 149, A 165, A 169, A 170, A 181, A 182, A 183, A 184, A 189, S 8, B 22, ASHat Growth Centre, Polagam (Village), Karaikal (District), Pondicherry.

(ii) Facilities proposed to be developed as part of the project include: Secured landfill - 200 TPD; Stabilization of hazardous waste - 300 TPD; Incineration -55 TPD; Back up Incineration - 55 TPD; Biomedical wastes treatment facility - 13 TPD; Alternative Fuel and Raw Material (AFRF)- 55 TPD; Paper recycling - 10 TPD; Plastic recycling -10 TPD; E-waste recycling - 82 TPD; Used oil / Spent Oil recycling - 54 KLD; Lead recycling - 65 TPD, Drum recycling / decontamination recycling plant -10 TPD ; Solvent recovery - 27 KLD; Aluminium dross reprocessing -165 TPD ; Spent Pot Liner (SPL)(Refractory portion) processing & disposal - 165; SPL (Carbon portion) reprocessing -165 TPD ; Renewable energy - 2 MW; and Waste to energy 2 MW.

(iii) In consistent with notification issued by the Ministry of Environment and Forests, Climate Change (MoEF&CC) S.O.1535, dated 14.09.2006 and its ensuing amendments, the proposed project falls under Project Activity 7(d) - Common Hazardous Waste Treatment, Storage and Disposal Facilities (TSDFs), Category 'A' - All Integrated facilities having incineration and landfill or Incineration alone.

(iv) A total land of 18.20 Acres (7.37 Ha) has been pre-arranged for the proposed project through Pondicherry Industrial Promotion Development and Investment Corporation Limited (PIPDIC). Adhering to the MoEF&CC guidelines, at any given time 33% of the area will be allotted for greenbelt development.

(v) The total water requirement for the project is 100 KLD. The water will be sourced from bore wells/ tankers/ canals/ lakes.

(vi) The power required for operations is 375 kVA and will be sourced from state electricity board. Two DG sets of 250 kVA capacity each will be used as backup power source during emergency necessity.

(vii) The capital cost for the proposed project is estimated to be around Rs.35 crores. The capital budget allocated for EMP is around Rs.3.5 Crores and the budget for CER activities is Rs. 0.7 Crores (2% of project cost).

45.3.7.2. The EAC noted the following:-

(i) The proposal is for grant of Terms of Reference to the project Karaikal Waste Management Project, Pondicherry a unit division of M/s Ramky Enviro Engineers Ltd at Village Polagam, District Karaikal, Pondicherry by M/s Ramky Enviro Engineers Limited.

(ii) The project/activity is covered under category A of item 7(d) 'Common hazardous waste treatment, storage and disposal facilities (TSDFs)' of the Schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at Central level by sectoral EAC.

45.3.7.3. *The project proponent informed the EAC that M/s Ramky Enviro Engineers Limited (REEL), considering the increasing trend in hazardous waste generation in the Union Territory of Pondicherry, as well considering the need for different disposal/recycling methods for different waste streams generated, proposes to establish an Integrated Common Hazardous Waste Treatment, Storage, Disposal & Recycling Facility in an area of 18.20 acres (7.37 hectares) at Survey nos.: A, A29, A31, A52, A53, A58, A59, A60, A61, A62, A63, A64, A65, A66, A67, A78, A149, A165, A169, A170, A181, A182, A183, A184, A189, S8, B22, ASH at Growth Centre, Polagam Village, Karaikal District, Pondicherry.*

After detailed deliberations on the proposal, the Committee recommended for grant of Terms of Reference as specified by the Ministry as Standard ToR in April, 2015 for the said project/activity and the following ToR in addition to Standard ToR for preparation of EIA-EMP report:

(i) Importance and benefits of the project.

(ii) The E.I.A. would address to the conformity of site to the stipulations as made in the Hazardous and other Wastes (Management, handling and trans-boundary movement) Rules, 2016 and will have a complete chapter indicating conformity to the said rules.

(iii) Project proponents would also submit a write up on how their project proposal conform to the stipulations made in the "Protocol for Performance evolution and monitoring of the Common Hazardous Waste Treatment Storage and Disposal facilities including common Hazardous Waste incinerators", published by the CPCB on May 24, 2010.

(iv) Status of compliance to the provisions of the Hazardous and Other Wastes *(*Management and Transboundary Movement) Rules*,* 2016, and Bio-Medical Waste Management Rules, 2016.

(v) Details of various waste management units with capacities for the proposed project.

(vi) List of waste to be handled and their source along with mode of transportation.

(vii) Other chemicals and materials required with quantities and storage capacities.

(viii) Details of temporary storage facility for storage of hazardous waste at project site.

(ix) Details of pre-treatment facility of hazardous waste at TSDF.

(x) Details of air emissions, effluents, hazardous/solid waste generation and their management.

(xi) Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).

(xii) Process description along with major equipments and machineries, process flow sheet (quantitative) from waste material to disposal to be provided.

(xiii) Hazard identification and details of proposed safety systems.

(xiv) Details of Drainage of the project up to 5 km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided.

(xv) Ground water quality monitoring in and around the project site.

(xvi) The Air Quality Index shall be calculated for base level air quality.

(xvii) Status of the land purchases in terms of land acquisition Act and study the impact.

(xviii) Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.

(xix) R&R details in respect of land in line with state Government policy.

(xx) Details of effluent treatment and recycling process.

(xxi) Leachate study report and detailed leachate management plan to be incorporated.

(xxii) Action plan for measures to be taken for excessive leachate generation during monsoon period.

(xxiii) Action plan for any pollution of ground water is noticed during operation period or post closure monitoring period.

(xxiv) Detailed Environmental Monitoring Plan as well as Post Closure Monitoring Plan.

(xxv) Submit details of Bio Medical Waste to be handled and the other facilities operating within 75 km area.

(xxvi) A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project.

(xxvii) A detailed Plan for green belt development.

(xxviii) A certificate from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.

(xxix) Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.

(xxx) The project proponents shall satisfactorily address to all the complaints/suggestions that have been received against the project till the date of submission of proposals for Appraisal.

(xxxi) Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.

(xxxii) Plan for Corporate Environment Responsibility (CER) as specified under Ministry's Office Memorandum vide F.No. 22-65/2017-IA.III dated 1st May 2018 shall be prepared and submitted along with EIA Report.

(xxxiii) A tabular chart with index for point wise compliance of above ToRs.

It was recommended that 'ToR' along with Public Hearing prescribed by the Expert Appraisal Committee (Infrastructure-2) should be considered for preparation of EIA/EMP report for the above mentioned project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. The draft EIA/EMP report shall be submitted to the State Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report.

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Agenda item No. 45.3.8.

Proposed 3rd stage of expansion of Kempegowda International Airport (KIA) from 55 MPPA to its ultimate phase of 92 MPPA within the existing KIA premises by M/s Bangalore International Airport Limited - Terms of Reference

(IA/KA/MIS/120144/2019; F.No.10-47/2019-IA-III)

45.3.8.1. The project proponent and the accredited Consultant M/s Vimta Labs Limited gave a detailed presentation on the salient features of the project and informed that:

(i) Bangalore International Airport Limited (BIAL), proposed the third stage of expansion of Kempegowda International Airport (KIA) from 55 MPPA to its ultimate phase of 92 MPPA and cargo of 1.1 Million Tonnes Per Annum (MPTA) along with the required airport activities & non aeronautical airport activities and supporting ancillary projects required for International Airport operations.

(ii) The proposed expansion project will be developed within the existing airport site are alocated at Devanahalli, Bengaluru, Karnataka. No additional land acquisition is involved as all the

expansion activities are planned within the KIA airport site area of 1622 ha itself.

(iii) The following clearances has been issued by the MoEFCC:

a. Environmental Clearance vide letter F.No.J-16011/11/97-IA-III dated 27th August, 2002 for construction of New BIA at Devanahalli.

b. Environmental Clearance vide letter F.No.10-157/2007-IA-III dated 6th May, 2008 for the improvisation/expansion of the facilities at KIA.

c. Environmental Clearance vide letter F.No.J-16011/11/971A.III dated 8th July, 2011 for first stage expansion activities of the airport (11.40 MPPA to 17.20 MPPA).

d. Environmental Clearance vide letter F.No.10-24/2012-IA.III dated 22nd August, 2014 for second stage expansion activities of the airport (17.20 MPPA to 55 MPPA and 1.0 MTPA cargo handling).

e. Amendment in Environmental Clearance vide letter F.No.10-24/2012-IA.III dated 21st December, 2018 for construction of Eastern Connectivity Tunnel.

(iv) The proposed airport expansion involves the development of following facilities:

A. Aeronautical Zone (Airside Area)- Aeronautical Zone is spread on total site area of approximately 1317 ha (3254 acres) accounting for approximately 81% of total area of KIA. Aeronautical Zone is planned to provide all required aviation operational infrastructure to enable ultimate passenger capacity of 92 MPPA and 1.1 million tonnes of cargo handling per annum.

The proposed aeronautical zone shall be inclusive of, but not limited to; runways, taxiways, west cross field taxiway, aprons, terminals (inclusive of all required uses, sub uses within it including retail & commercial inside terminals), hangars, security offices & installations , fire station, water storage & pumping facilities, power sub- stations, septic tanks/STPs, offices (for radar, ATC, airline, airport, IT duct banks, etc. and all supporting/reserved services), NAVAIDs, aircraft maintenance workshops, mechanical workshops, vehicle maintenance workshops, GSE - Ground Service Depots (GSD) and parking, unit load device (ULD) parking areas, vehicle parking including multi-level car parking, internal roads, security gates, airline support offices & warehouses, transport workshops, staff canteens & kitchens, cargo terminals, offices & warehouses, VIP lounges, MET offices, aircraft maintenance, MRO & other related uses, etc.

B. Non Aeronautical Zone (Landside Area)- Non aeronautical zone is spread on total site area of approximately 305 ha (755 acres) accounting for approximately 19% of total area of KIA.

The non-aeronautical development shall include aeronautical and non-aeronautical commercial development, creation of new and expanded road network, drainage, utility provisions, parking infrastructure along with development of open / green areas, landscape etc. Non-aeronautical development shall also include uses like business parks, retail dining and entertainment, convention and exhibition centre, hotels and serviced apartments, R&D, mixed use development. The proposed non-aeronautical development will support and complement the aviation operations.

(v) The total water demand for KIA is estimated to be 72 MLD at ultimate stage, inclusive of both aeronautical& non-aeronautical uses. Aeronautical use water demand is projected to be 24 MLD, while water demand from non-aeronautical uses is estimated to be 48 MLD. The potable water requirement for aeronautical is 9 MLD and for non-aeronautical is 15 MLD. The total potable water requirement is approximately 24 MLD. The rest of the water demand for non-potable use will be met from treated sewage of BIAL and BWSSB.

(vi) The total wastewater to be generated after airport expansion is estimated to be about 32 MLD. New STP Plants, with latest technology (MBR, MBBR, SBR etc.) to recycle treated sewage shall be installed for sewerage treatment in a phased manner. The tertiary treated sewage shall be

used for HVAC make up, irrigation and toilet flushing. This will help KIA in reducing demand for fresh water.

(vii) Solid Waste Management: Solid waste generated from the airport area comprises of STP sludge, food waste, garbage, waste oil from STP and workshops, biomedical, hazardous wastes etc. All waste generated from the proposed aeronautical and non-aeronautical development shall be disposed as per the existing practice at the airport complex, in line with the provisions of the Solid Waste Rules, 2016.

(viii) BIAL is planning to establish its own state of art integrated solid waste management facility at the airport as part of "Swachh Baharat" Mission. This solid waste management facility at KIA with a capacity of 60 ton per day will be constructed in phased manner. Phase 1 with a capacity of 25 ton per day is expected to be commissioned by December 2020.

(ix) The cost of proposed expansion program at KIA including development of aeronautical, non–aeronautical and ancillary facilities is estimated at Rs. 24,167 Crores.

(x) Benefits of the project- Proposed expansion project of the airport would be beneficial not only to meet the ever escalating air traffic demand in India, but also to enhance the operational efficiency as well as passenger amenities/facilities The proposed expansion will further attract industrial and infrastructure development in the region there by generating the revenue which will boost the economy of the State.

(xi) Employment potential- The current direct employment ratio at BIAL for the aeronautical area is 630 employees per 1 MPPA of terminal design capacity. Based on this, the workforce requirement is expected to be around 60,000 for an ultimate terminal design capacity of 92 MPPA. The indirect employment potential in supporting services category is expected to be approx. 3.8 lakhs persons.

45.3.8.2. *During deliberations, the EAC noted the following:-*

(i) The proposal is for grant of Terms of Reference to the project "Proposed 3rd stage of expansion of Kempegowda International Airport (KIA) from 55 MPPA to its ultimate phase of 92 MPPA within the existing KIA premises by M/s Bangalore International Airport Limited.

(ii) The project/activity is covered under category A of item 7(a) 'Air Ports' of the Schedule to the EIA Notification, 2006 and its amendments, and requires appraisal at Central level by sectoral EAC.

45.3.8.3. *The project proponent informed the EAC that Bangalore International Airport Limited (BIAL) is the owner and developer of Kempegowda International Airport (formerly known as Bengaluru International Airport) located at Devanahalli, Bengaluru, Karnataka. It is a public limited company consortium of FIH Maritius Investments Ltd, Siemens project ventures GmbH, Government of Karnataka and Government of India. Kempegowda International Airport was commissioned in May 2008 with a single runway, a terminal building of capacity 11.4 MPPA and cargo handling capacity of 350,000 MTPA. In July 2011, Ministry had approved the first stage expansion enhancing the passenger handling capacity from 11.4 MPPA to 17.2 MPPA. The first stage expansion of existing terminal was completed in December, 2013 and commissioned in February, 2014. Environment clearance for second stage expansion was accorded by MoEF&CC vide F.No.10-24/2012-IA.III dated 22nd August, 2014 to accommodate the future traffic growth which is forecasted to reach the level of 55 MPPA and 1.0 MTPA of Cargo handling by 2030.*

After detailed deliberations on the proposal, the Committee recommended for grant of Terms of Reference as specified by the Ministry as Standard ToR in April, 2015 for the said project/activity and the following ToR in addition to Standard ToR for preparation of EIA-EMP report:

(i) Importance and benefits of the project.

(ii) Comparative details of the existing project and proposed expansion.

(iii) Certified Compliance Report issued by the MoEF&CC, Regional Office or concerned Regional Office of Central Pollution Control Board or the Member Secretary of the respective State Pollution Control Board for the conditions stipulated in the earlier environmental clearances issued to the project along with an action taken report on issues which have been stated to be partially complied or non/not complied.

(iv) Submit valid Consent to Operate (CTO) for the existing Airport and compliance to the conditions of the CTO and authorization for the existing Airport.

(v) The EIA will discuss the compliance to the Pollution Control Laws and the notifications under the E.P. Act 1986 and get a certified report from the Pollution Control Board.

(vi) The E.I.A. will give a justification for land requirements along with a comparison to the guidelines established by the Airport Authority of India/Ministry of Civil Aviation in this regards.

(vii) A toposheet of the study area of radius of 10 km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet (including all eco-sensitive areas and environmentally sensitive places).

(viii) Layout maps of proposed project indicating runway, airport building, parking, greenbelt area, utilities etc.

(ix) Cost of project and time of completion.

(x) Submit Fire NOC for existing project from concerned Department.

(xi) The impacts of demolition and the activities related thereto shall be examined and a management plan drawn up to conform to the Construction and Demolition rules under the E.P. Act, 1986.

(xii) The report shall examine the details of excavations, its impacts and the impacts of transport of excavated material. A detailed Management Plan shall be suggested.

(xiii) Detail plan for 'deplane waste' and impact of noise on the sensitive environment specially the wildlife sanctuaries and national parks.

(xiv) An assessment of the cumulative impact of all development and increased inhabitation being carried out or proposed to be carried out by the project or other agencies in the core area, shall be made for traffic densities and parking capabilities in a 05 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up through an organization of repute and specializing in Transport Planning shall be submitted with the EIA. The Plan to be implemented to the satisfaction of the State Urban Development and Transport Departments shall also include the consent of all the concerned implementing agencies.

(xv) The E.I.A. should specifically address to vehicular traffic management as well as estimation of vehicular parking area inside the Airport premises.

(xvi) An onsite disaster management plan shall be drawn up to account for risks and accidents. This onsite plan shall be dovetailed with the onsite management plan for the district.

(xvii) A note on appropriate process and materials to be used to encourage reduction in carbon foot print. Optimize use of energy systems in buildings that should maintain a specified indoor environment conducive to the functional requirements of the building by following mandatory compliance measures (for all applicable buildings) as recommended in the Energy Conservation Building Code (ECBC) 2017 of the Bureau of Energy Efficiency, Government of India. The energy system includes air conditioning systems, indoor lighting systems, water heaters, air heaters and air circulation devices.

(xviii) Details shall be provided regarding the solar generation proposed and the extent of substitution, along with compliance to the ECBC rules.

(xix) Details of emission, effluents, solid waste and hazardous waste generation and their management. Air quality modeling and noise modeling shall be carried out for the emissions from various types of aircraft.

(xx) The impact of aircraft emissions in different scenarios of idling, taxiing, take off and touchdown shall be examined and a management plan suggested.

(xxi) The impact of air emissions from speed controlled and other vehicles plying within the Airport shall be examined and management plan drawn up.

(xxii) The management plan will include compliance to the provisions of the MSW Rules, 2016.

(xxiii) A detailed management plan, drawn up in consultation with the competent District Authorities, shall be submitted for the regulation of unauthorized development and encroachments within a 05 Km radians of the Airport.

(xxiv) The E.I.A. will also examine the impacts of construction and operation of the proposed STP and draw up a detailed plan for management including that for odour control.

(xxv) Classify all Cargo handled as perishable, explosive, solid, petroleum products, Hazardous Waste, Hazardous Chemical, Potential Air Pollutant, Potential Water Pollutant etc. and put up a handling and disposal management plan.

(xxvi) Noise monitoring and impact assessment shall be done for each representative area (as per the Noise Rules of MoEF&CC). A noise management plan shall be submitted to conform to the guidelines of the MoEF&CC and the DGCA.

(xxvii) Noise monitoring shall be carried out in the funnel area of flight path.

(xxviii) Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).

(xxix) Ground water abstraction and rain water recharge shall be as prescribed by the CGWA. A clearance/permission of the CGWA shall be obtained in this regards.

(xxx) Details of fuel tank farm and its risk assessment.

(xxxi) The E.I.A. should present details on the compliance of the project to the Fly Ash notification issued under the E.P. Act of 1986.

(xxxii) The report should give a detailed impact analysis and management plan for handling of the following wastes for the existing and proposed scenarios.

(a) Trash collected in flight and disposed at the Airport including the segregation mechanism.
(b) Toilet wastes and sewage collected from aircrafts and disposed at the Airport.
(c) Maintenance and workshop wastes.
(d) Wastes arising out of eateries and shops situated within the airport.

(xxxiii) Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.

(xxxiv) Submit an affidavit signed by the Board of Directors, that there is no violation and no part of the project has been implemented without Environmental Clearance.

(xxxv) Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.

(xxxvi) Plan for Corporate Environment Responsibility (CER) as specified under Ministry's Office Memorandum vide F.No. 22-65/2017-IA.III dated 1st May 2018 shall be prepared and submitted along with EIA Report.

(xxxvii) A tabular chart with index for point wise compliance of above ToR.

It was recommended that 'ToR' along with Public Hearing prescribed by the Expert Appraisal Committee (Infrastructure-2) should be considered for preparation of EIA/ EMP report for the above mentioned project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. The draft EIA/EMP report shall be submitted to the State Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report.

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Agenda item No. 45.3.9.

Development of Joint Use Civil Enclave for AAI at Tehsil Bihta, District Patna, Bihar by M/s Airport Authority of India Bihta - Terms of Reference

(IA/BR/MIS/116621/2019; F.No.10-45/2019-IA-III)

45.3.9.1. The project proponent and the accredited Consultant M/s GREENCINDIA Consulting Private Limited gave a detailed presentation on the salient features of the project and informed that:

(i) Patna Airport has shown remarkable growth in passenger traffic during last few years. In 2014-15, the annual traffic was 1.20 million, whereas in 2017-18 it was 3.11 million- CAGR of 37.36%. Till September 2018, the passenger growth is 43.5 % over the corresponding period of last year. The annual aircraft movement at Patna also has grown at a CAGR of 25.60% from 2014-15 to 2017-18. CCEA has accorded the approval for construction of new Terminal Building at Patna Airport (area 45,600 sqm excluding basement) with a cost of Rs. 1216.90 Cr. The new Terminal Building can handle 8 million passengers annually and as per growth trend, the new Terminal Bldg. is likely to handle design capacity in the first year of operation itself i.e. 2022-23. Due to land / other constraints, there is no scope of further expansion of Terminal Building / air side capacity / extension of runway length at Patna. Therefore, there is a necessity of second Airport for Patna to cater the growing traffic beyond 2023.

(ii) AAI proposed to develop joint use airport of IAF and AAI at Bihta, Patna district. In the Phase-I (2020), the airstrip will be developed to cater for operation of AB-320/B-737/AB-321, type of aircraft. A new terminal building for handling annual capacity of 2.5 MPPA in Phase – I and 5 MPPA ultimate capacities will be developed. The peak hour capacity will be 2000. The area details of the proposed project are as follows:

S. No.	Aspects	Land Area (in acre)	Ground coverage (in sqm)	Built up Area (in sqm)
1.	Terminal Building	6.3	25,400	66,000
2.	Utility Building	1.5	2,000	3,000
3.	Apron	8.0	-	-
4.	Taxiway	26.0	-	-
5.	Landscape, Road, Ramp, Pathways & Car Parking	29.5	-	-
6.	Area for Future development	37.1	-	-
TOTAL		**108.4**	**27,400**	**69,000**

(iii) The Bihta airport site is located 35 kms from Patna (in West direction) near NH-922. The site is located in Bihta block, in Patna district, in the state of Bihar. It has River Sone, 7.3 km to its West, and River Ganga 8.5 km to it northern side. The nearest Railway Station is at Bihta, 2 kms to the south, and the nearest International Airport at Patna at 35 km to the east. The proposed project is IAF Airport at Bihta to a Joint use Airport spread over an area of 108.4075 Acres. The project site falls under seismic zone IV which is a high damage risk zone.

(iv) The construction of new domestic terminal building, construction of an Apron for parking of 5 (Five) A321/B-737-800/A320 type of aircraft and Two Taxiways. The proposed completion schedule for the project is 28 months.

(v) The source of water for the proposed area will be Ground water. The daily consumption of water during operation phase will be about 1275 KLD of which 610 KLD will be fresh water and 665 KLD will be recycled water. The total wastewater generation in operation phase will be 693 KLD. The wastewater will be treated in 700 KLD MBR technologies STP.

(vi) Total load estimation for Bihta Airport (Phase-1) shall be 4029.5 KVA. As per norms given in Bihar Electricity code 2004 with amendment power is available at 33KV for loads from 1.0 to 10.0MVA. Electricity power supply metering shall be at 33KV. The bulk power supply will be drawn from the grid of State Electricity Board.

(vii) During construction phase, solid waste will be refilled for levelling etc. No solid waste will be disposed outside. Organic waste will be treated at site. During operation phase, 4.03 tons solid waste is estimated to be generated in the proposed project. The wastes will be collected in three separate bins namely bio-degradable, non-biodegradable and domestic hazardous wastes. The organic portion of the waste shall be treated in organic waste converter at site. The remaining waste shall be handed over to authorised waste pickers or waste collectors as per the direction or notification by the local authorities from time to time.

(viii) Hazardous waste shall be treated in accordance with Hazardous Waste Management Rules 2008, Batteries waste shall be handled in accordance with Batteries Management Rules, 2010 and E waste as per E-waste Guidelines, 2008.

(ix) Investment/Cost of the project: The estimated cost of the project is Rs. 950.76 Crores.

(x) Benefits of the project: It has been observed that theimprovement in air connectivity has brought tremendous benefits to users of air transport services by reducing time spent in transit, increasing the frequency of service, allowing for shorter waiting times and better targeting of departure and arrival times; improving the quality of service, such as reliability, punctuality and quality of the travel experience and consequently, improvements in connectivity will effectively contribute to the economic performance of the wider economy through enhancing its overall level of productivity.

(xi) Employment potential: The direct employment during operation phase in proposed project will be 2000 people. However indirect employment will be around 6000 to 8000 people who will be employed in taxi operations and other allied services. During construction phase, 1000 labours and 100 supervisors will be employed in various construction, transportation and storage activities

45.3.9.2. *During deliberations, the EAC noted the following:-*

(i) The proposal is for grant of Terms of Reference to the project “Development of Joint Use Civil Enclave For AAI” at Tehsil Bihta, District Patna, Bihar by M/s Airport Authority of India Bihta.

(ii) The project/activity is covered under category A of item 7(a) ‘Air Ports’ of the Schedule to the EIA Notification, 2006 and its amendments, and requires appraisal at Central level by sectoral EAC.

45.3.9.3. *The project proponent informed the EAC that new Terminal Building under construction at Patna Airport can handle 8 million passengers annually. As per growth trend, the Terminal Building is likely to handle design capacity in the first year of operation itself i.e 2022-23. Due to land and other constraints, there is no scope of further expansion of Terminal Building, air side capacity, extension of runway length at Patna Airport. Hence, the development of Civil Enclave at IAF base, Bihta has been planned. State Govt. of Bihar has transferred 108.4 acre land free of cost and IAF have given the permission to operate passenger flight at Bihta. Bihta Airport is designed to handle 2000 PHP and 5 million annual Passengers.*

After detailed deliberations on the proposal, the Committee recommended for grant of Terms of Reference as specified by the Ministry as Standard ToR in April, 2015 for the said project/activity and the following ToR in addition to Standard ToR for preparation of EIA-EMP report:

(i) Importance and benefits of the project.

(ii) Submit passenger projection study for the Airport.

(iii) The EIA will discuss the compliance to the Pollution Control Laws and the notifications under the E.P. Act 1986 and get a certified report from the Pollution Control Board.

(iv) The E.I.A. will give a justification for land requirements along with a comparison to the guidelines established by the Airport Authority of India/Ministry of Civil Aviation in this regards.

(v) A toposheet of the study area of radius of 10 km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet (including all eco-sensitive areas and environmentally sensitive places).

(vi) Layout maps of proposed project indicating runway, airport building, parking, greenbelt area, utilities etc.

(vii) Cost of project and time of completion.

(viii) Submit Fire NOC for existing project from concerned Department.

(ix) The impacts of demolition and the activities related thereto shall be examined and a management plan drawn up to conform to the Construction and Demolition rules under the E.P. Act, 1986.

(x) The report shall examine the details of excavations, its impacts and the impacts of transport of excavated material. A detailed Management Plan shall be suggested.

(xi) Detail plan for 'deplane waste' and impact of noise on the sensitive environment specially the wildlife sanctuaries and national parks.

(xii) An assessment of the cumulative impact of all development and increased inhabitation being carried out or proposed to be carried out by the project or other agencies in the core area, shall be made for traffic densities and parking capabilities in a 05 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up through an organization of repute and specializing in Transport Planning shall be submitted with the EIA. The Plan to be implemented to the satisfaction of the State Urban Development and Transport Departments shall also include the consent of all the concerned implementing agencies.

(xiii) The E.I.A. should specifically address to vehicular traffic management as well as estimation of vehicular parking area inside the Airport premises.

(xiv) An onsite disaster management plan shall be drawn up to account for risks and accidents. This onsite plan shall be dovetailed with the onsite management plan for the district.

(xv) A note on appropriate process and materials to be used to encourage reduction in carbon foot print. Optimize use of energy systems in buildings that should maintain a specified indoor environment conducive to the functional requirements of the building by following mandatory compliance measures (for all applicable buildings) as recommended in the Energy Conservation Building Code (ECBC) 2017 of the Bureau of Energy Efficiency, Government of India. The energy system includes air conditioning systems, indoor lighting systems, water heaters, air heaters and air circulation devices.

(xvi) Details shall be provided regarding the solar generation proposed and the extent of substitution, along with compliance to the ECBC rules.

(xvii) Details of emission, effluents, solid waste and hazardous waste generation and their management. Air quality modeling and noise modeling shall be carried out for the emissions from various types of aircraft.

(xviii) The impact of aircraft emissions in different scenarios of idling, taxiing, take off and touchdown shall be examined and a management plan suggested.

(xix) The impact of air emissions from speed controlled and other vehicles plying within the Airport shall be examined and management plan drawn up.

(xx) The management plan will include compliance to the provisions of the MSW Rules, 2016.

(xxi) A detailed management plan, drawn up in consultation with the competent District Authorities, shall be submitted for the regulation of unauthorized development and encroachments within a 05 Km radians of the Airport.

(xxii) The E.I.A. will also examine the impacts of construction and operation of the proposed STP and draw up a detailed plan for management including that for odour control.

(xxiii) Classify all Cargo handled as perishable, explosive, solid, petroleum products, Hazardous Waste, Hazardous Chemical, Potential Air Pollutant, Potential Water Pollutant etc. and put up a handling and disposal management plan.

(xxiv) Noise monitoring and impact assessment shall be done for each representative area (as per the Noise Rules of MoEF&CC). A noise management plan shall be submitted to conform to the guidelines of the MoEF&CC and the DGCA.

(xxv) Noise monitoring shall be carried out in the funnel area of flight path.

(xxvi) Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).

(xxvii) Ground water abstraction and rain water recharge shall be as prescribed by the CGWA. A clearance/permission of the CGWA shall be obtained in this regards.

(xxviii) Details of fuel tank farm and its risk assessment.

(xxix) The E.I.A. should present details on the compliance of the project to the Fly Ash notification issued under the E.P. Act of 1986.

(xxx) The report should give a detailed impact analysis and management plan for handling of the following wastes for the existing and proposed scenarios.

(a) Trash collected in flight and disposed at the Airport including the segregation mechanism.
(b) Toilet wastes and sewage collected from aircrafts and disposed at the Airport.
(c) Maintenance and workshop wastes.
(d) Wastes arising out of eateries and shops situated within the airport.

(xxxi) Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.

(xxxii) Submit an affidavit signed by the Board of Directors, that there is no violation and no part of the project has been implemented without Environmental Clearance.

(xxxiii) Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.

(xxxiv) Plan for Corporate Environment Responsibility (CER) as specified under Ministry's Office Memorandum vide F.No. 22-65/2017-IA.III dated 1st May 2018 shall be prepared and submitted along with EIA Report.

(xxxv) A tabular chart with index for point wise compliance of above ToR.

It was recommended that 'ToR' along with Public Hearing prescribed by the Expert Appraisal Committee (Infrastructure-2) should be considered for preparation of EIA/ EMP report for the above mentioned project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. The draft EIA/EMP report shall be submitted to the State Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report.

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Day 2 - Friday, 18th October, 2019

Agenda item No. 45.4.1.

Development, Operation and Maintenance of Passenger Ropeway along-with Ancillary Tourism Activity between Panaji to Reis Magos by M/s Royal Rides Private Limited - Terms of Reference

(IA/GA/MIS/120287/2019; F.No.10-48/2019-IA-III)

45.4.1.1. The project proponent and the accredited Consultant M/s Perfact Enviro Solutions Pvt Ltd gave a detailed presentation on the salient features of the project and informed that:

(i) The proposed project titled "Development, Operation and Maintenance of Passenger Ropeway along-with Ancillary Tourism Activities between Panaji to Reis Magos", Taluka Tiswadi and Bardez, District North Goa, Goa has been proposed by M/s Royal Rides Private Limited.

(ii) Due to rapid growth in the tourist footfalls, there is immense pressure on resources on the beaches. In its endeavor to reduce the pressure on beach tourism and to further enhance Goa's tourist appeal by way of improving the variety of its tourism attractions, project proponent will develop a "Detachable Monocable Gondola" system with ancillary tourism facilities from Panaji to Reis Magos. The Project will act as a good recreational activity for all tourist groups including family, kids, etc. and will also provide a positive influence on economic activity in Panaji and Reis Magos which will lead to upliftment in the surrounding areas too.

(iii) The proposed ropeway will be developed from LTP at Panaji to UTP at Village Reis Magos with building construction at both the terminals (LTP- 2 B + G + 5, Height- 40 m and UTP- G + 1 Height- 9 m). The area required for the construction of the proposed Ropeway with Building Constructions would be about 38,571.69 sqm, out of which 13,200 sqm (5200 sqm area of LTP and 8000 sqm of UTP) will be utilized for construction of Ropeway terminals. The passenger capacity of the ropeway is 800 PPH which can be expandable upto 1000 PPH. The total number of trips/day depends on operational hours. It can cover 288 trips/24 hrs during peak time. A total capacity of 8 passengers can be carried at one time. For proposed ropeway, the elevation of LTP is 7 m & UTP is 28 m above MSL. The details of the project are as follows:

Technology of ropeway	Detachable Monocable Gondola
Length	1218 m

Elevation, Latitude & Longitude of LTP	Lat: 15°29'20.30"N, Long: 73°48'46.15"E Elevation: 7 m above MSL
Elevation, Latitude & Longitude of UTP	Lat: 15°29'49.38"N Long: 73°48'25.28"E Elevation: 28 m above MSL
Haulage rope dia	47 mm
Passenger capacity of ropeway	800 PPH (Extendable up to 1000 PPH)
Trip time	5.01 min
Drive speed	5 m/s
No. Of trips/day	96 trips (Operational hours- 8)

	144 trips (Operational hours- 12) 288 trips (Peak time- Operational hours- 24)
Station speed	0.25 m/s
Number of carriers	17 pcs.
Number of other carriers (service carrier)	1 pcs.
Passengers per carrier	8 no.
Carrier spacing	180 m
Number of towers	4 Pcs.

(iv) The project being an Aerial Ropeway falls under Item 7 (g) of the schedule of EIA notification, 2006 under category A due to applicability of general condition as the project lies at 4.26 km NE from ESZ of Dr. Salim Ali Bird Sanctuary.

(v) Approx. 250 local labors will be employed. The total population envisaged for the proposed project during operational phase will be 18750 (Tourist Activity-Visitors- 16000, Tourist Activity-Staff- 1600, Food Court & Restaurants-Visitors- 1000 and Food Court & Restaurants-Staff- 150).

(vi) The total water requirement has been estimated as 416 KLD. and the source will be Municipal supply and tanker water supply. Water will be used mainly for domestic, kitchen, flushing, DG & HVAC Cooling, gardening & misc. purposes. The total quantity of wastewater generation has been estimated to be 321 KLD. The wastewater generated will be treated in STP of total capacity of 400 KLD.

(vii) Total power requirement will be 2097 kVA at LTP and 445 kVA at UTP. DG set of 3x 1250 kVA at LTP and 2 x 1010 kVA at UTP are proposed for backup power supply. These D.G. Sets will be provided with a stack height of 6 m above roof level of terminal building of 45 m at LTP and 30 m above ground level at UTP will be provided as per the CPCB norms & will be kept in an acoustically treated room.

(viii) During construction phase, approx. 37 Kg/day wastes will be generated which will be sent to solid waste/landfill site.

(ix) During Operation phase, 2813 kg/day solid waste will be generated, out of which 1700 kg/day will be organic waste and 1113 kg /day will be recyclable waste. The organic waste will be treated in Organic waste converter and recyclable waste will be given to approved recycler.

(x) Used oil generated from the DG sets will be sent to authorize hazardous waste disposal authority.

(xi) There will be no displacement or immigration of the human population due to the proposed project.

45.4.1.2. The EAC noted the following:-

(i) The proposal is for grant of Terms of Reference to the project Development, Operation and Maintenance of Passenger Ropeway along-with Ancillary Tourism Activity between Panaji to Reis Magos by M/s Royal Rides Private Limited.

(ii) The project/activity is covered under category B of item 7(g) 'Ropeways' of the Schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at SEIAA/SEAC level. However due to applicability of general condition as the project lies at 4.26 km NE from ESZ of Dr. Salim Ali Bird Sanctuary, the project is apprised as Category at Central Level by sectoral EAC.

45.4.1.3. *The project proponent informed the EAC that to enhance Goa's tourist, Department of Tourism-Goa and GTDC after studying various routes in the State suggested to develop "Ropeway project" between Panaji and Reis Magos. With the aforesaid objective, Goa Tourism Development Corporation Ltd. on behalf of State Government of Goa, had carried out a competitive bidding process for selection of private entities or bidders for the development of the project and concluded the bidding*

process by selecting Menus Adventures Pvt. Ltd., which in turn has incorporated M/s Royal Rides Pvt. Ltd. as 'Special Purpose Vehicle' for executing the project. The proposed ropeway will be "Detachable Monocable Gondola" system developed from LTP at Panaji to UTP at Village Reis Magos with building construction at both the terminals with an alignment of 1218 m in length, covering an area of 38,571.69 sqm (including Terminal Stations, ropeway corridor and other activities) and an elevation difference of 21 m. The elevation of LTP is 7 m & UTP is 28 m above MSL.

After detailed deliberations on the proposal, the Committee *recommended for grant of Terms of Reference as specified by the Ministry as Standard ToR in April, 2015 for the said project/activity and the following TOR in addition to Standard ToR for preparation of EIA-EMP report:*

(i) Importance and benefits of the project.

(ii) A toposheet of the study area of radius of 10 km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet (including all eco-sensitive areas and environmentally sensitive places).

(iii) Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scale.

(iv) Recommendation of the SCZMA.

(v) Submit superimposing of latest CZMP as per CRZ (2011) on the CRZ map.

(vi) Submit a complete set of documents required as per para 4.2 (i) of CRZ Notification, 2011.

(vii) Plan and permission for felling of trees shall be submitted.

(viii) Status of clearance from National Board for Wild Life (NBWL).

(ix) Toposheet map of 10 km distance indicating eco-sensitive areas dully authenticated by the Wildlife warden.

(x) Route map of proposed ropeway project.

(xi) The impact of solid waste on Mandovi estuary should be studied.

(xii) Layout map of proposed project indicating location of upper station and lower station, building, food court, parking, greenbelt area, utilities etc.

(xiii) Numbers of persons/projections of tourist. Any developmental activity, especially tourism related, leads to lot of ancillary developmental activities. This brings in quite a number of people in project area and in nearby areas as well. No estimation or study of this ancillary incremental population is generally conducted. Many a times this results in development of slums in areas near the project site. The projected study of the number of persons coming in the area, tourists and ancillary population should be conducted meticulously which should include the learning from other examples. This must include permanent resident influx along with the temporary tourists. The projection study should cover a time period of the estimated 30 to 50 years. The results of the study should be used to develop a mitigation plan so that slums do not develop in and around the project site

(xiv) Cost of project and time of completion.

(xv) Details of air emission, effluents, solid waste and hazardous waste generation and their management.

(xvi) Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).

(xvii) The E.I.A. should specifically address to vehicular traffic management and parking facilities.

(xviii) Examine the ground water / water body contamination from septic tank/Soak pit.

(xix) The impact of odors from the bio-toilets and its management.

(xx) The increment in foot falls as a result of implementation of the project along with a justification on the adequacy of the existing and proposed infrastructure including toilets.

(xxi) An assessment of the impact of all activities being carried out or proposed to be carried out by the project shall be made for traffic densities and parking capabilities in a 2 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up through an organization of repute and specializing in Transport Planning shall be submitted with the EIA.

(xxii) An onsite disaster management plan shall be drawn up to account for risks and accidents. This onsite plan shall be dovetailed with the onsite management plan for the district.

(xxiii) The E.I.A. would study the safety risks associated with the construction and operation of the Ropeway and draw up a detailed safety management plan.

(xxiv) The impact of the ropeway on traffic movement, both at the L.T. and the U.T. will be examined and a plan submitted along with the E.I.A.

(xxv) The E.I.A. would also submit a plan ensuring the segregation of passenger cars with luggage cars in the ropeway and work out the minimum size of baggage to be allowed on the passenger cabin cars.

(xxvi) Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included.

(xxvii) Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.

(xxviii) The project proponents shall satisfactorily address to all the complaints/suggestions that have been received against the project till the date of submission of proposals for Appraisal.

(xxix) Plan for Corporate Environment Responsibility (CER) as specified under Ministry's Office Memorandum vide F.No. 22-65/2017-IA.III dated 1st May 2018 shall be prepared and submitted along with EIA Report.

(xxx) A tabular chart with index for point wise compliance of above ToR.

It was recommended that 'ToR' along with Public Hearing prescribed by the Expert Appraisal Committee (Infrastructure- 2) should be considered for preparation of EIA/ EMP report for the above mentioned project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. The draft EIA/EMP report shall be submitted to the State Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report.

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Agenda item No. 45.4.2.

'Sabrimala Ropeway Project' at Sabrimala, Kerala by M/s Eighteenth Step Damodar Cable Car Pvt Ltd - Amendment in Terms of Reference

(IA/KL/MIS/120003/2019; F.No.10-17/2017-IA-III)

45.4.2.1. The project proponent and the accredited Consultant M/s Perfact Enviro Solutions Pvt Ltd gave a detailed presentation on the salient features of the project and informed that:

(i) The project was earlier granted Terms of Reference vide letter F.No. 10-17/2017-IA-III dated 6.07.2017 for the development of a ropeway admeasuring area of 38,389.04 sqm. Now, due to change in planning, Forest Area has been increased from 3.84 ha. to 4.94 ha for the project so the total Land area has been increased from 38,389.04 sqm to 49,400 sqm. Total Land area has been increased from 38,389.04 sqm to 49,400 sqm. Dormitory Units along with Kitchen have been proposed for visitors (for emergency purposes). Ambulance cars have been introduced for the project. The project has been planned to be "PLASTIC-FREE ZONE" for conservation of forest area and Pamba river alongside Sabarimala temple these amendments have been proposed for the ropeway project.

(ii) The Revised Latitude & longitude of the extents of the project site are given below-

Station	Latitude	Longitude	Elevation (m)
LTP	77° 3'54.80"E	9°24'53.52"N	190
UTP	77° 4'43.49"E	9°33'5.56"N	906

(iii) The details of the amendment sought are as follows:

Product/Activity (capacity/Area)	**Unit**	**Quantity as per ToR dated 06.07.2017**	**Quantity Proposed**
Land Area (Forest Land)	Hectares	3.838904	4.94
DG sets for Power Backup	kVA	1x125 kVA (LTP)	1x125 kVA (LTP) 1x25 kVA (UTP)
Total Population/Pilgrims	No.	800	800-1000
Total Water Requirement	KLD	5	13.3
Wastewater Generation	KLD	3	9.2
Total Solid Waste Generation	kg/day	23	121
Cost of Project	Rs. in Crores	40	80

45.4.2.2. The EAC noted the following:-

(i) The proposal is for grant of Amendment in Terms of Reference to the project 'Sabrimala Ropeway Project' at Sabrimala, Kerala by M/s Eighteenth Step Damodar Cable Car Pvt Ltd.

(ii) The project/activity is covered under category B of item 7(g) 'Ropeways' of the Schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at SEIAA/SEAC level. However due to applicability of general condition as the selected alignment falls in some part of Periyar Wildlife Sanctuary, the project is apprised as Category at Central Level by sectoral EAC.

(iii) Terms of Reference was granted to the project vide letter F.No. 10-17/2017-IA-III dated 6.07.2017.

45.4.2.3. *The Committee deliberated upon the information provided by the project proponent and after being satisfied with the submission of project proponent recommended for amendment in Terms of Reference granted by MoEFCC vide letter F.No.* 10-17/2017-IA-III dated 6.07.2017 *as follows:*

Product/Activity (capacity/Area)	**Unit**	**Quantity as per ToR dated 06.07.2017**	**Amendment recommended**
Land Area (Forest Land)	Hectares	3.838904	4.94
DG sets for Power Backup	kVA	1x125 kVA (LTP)	1x125 kVA (LTP) 1x25 kVA (UTP)
Total Population/Pilgrims	No.	800	800-1000
Total Water Requirement	KLD	5	13.3
Wastewater Generation	KLD	3	9.2
Total Solid Waste Generation	kg/day	23	121
Cost of Project	Rs. in Crores	40	80

In addition to it, following conditions are also recommended to be incorporate in the EIA/EMP report:

(i) Plan for Corporate Environment Responsibility (CER) as specified under Ministry's Office Memorandum vide F.No. 22-65/2017-IA.III dated 1st May, 2018 shall be prepared and submitted along with EIA Report.

(ii) Any developmental activity, leads to lot of ancillary developmental activities. This brings in quite a number of people in project area and in nearby areas as well. No estimation or study of this ancillary incremental population is generally conducted. Many a times this results in development of slums in areas near the project site. The projected study of the number of persons coming in the area, tourists and ancillary population should be conducted meticulously which should include the learning from other examples. This must include permanent resident influx along with the temporary visitors. The projection study should cover a time period of the estimated 30 to 50 years.

(iii) The results of the study should be used for developing a mitigation plan so that slums do not develop in and around the project site.

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Agenda item No. 45.4.3.

Jivdani Passenger Funicular Ropeway at Virar, Maharashtra by M/s Shree Jivdani Devi Sansthan – Terms of Reference

(IA/MH/MIS/119943/2019; F.No.10-46/2019-IA-III)

45.4.3.1. The project proponent and the accredited Consultant M/s Perfact Enviro Solutions Pvt Ltd gave a detailed presentation on the salient features of the project and informed that:

(i) Jivdani Passenger Funicular Ropeway has been proposed by Shree Jivdani Devi Sansthan in Village- Virar, Tehsil Vasai of District Palghar of Maharashtra by M/s Shree Jivdani Devi Sansthan. which is a Special Purpose Vehicle (SPV) incorporated under the Companies Act for implementation and operation of Jivdani Passenger Funicular Ropeway at Shree Jivdani Devi temple, at S. No. 398, Virar -E, Virar, Maharashtra on S.no Class A/Land/ 346/ year 2017-18 dated 25/10/2017 in order to promote tourism & model shift to transit and reduction in traffic congestion in the region.

(ii) The project was granted Environmental Clearance vide letter no. SEAC-2008/CR.26/TC2 dated 17.09.2009 by Maharashtra SEIAA for development of Ropeway based on Monocable pulsated fixed Grip Passenger Ropeway being developed by M/s Damodar Ropeways and Construction Co. (P) Ltd. on behalf of Jivdani Devi Sansthan. Thereafter, construction works had been started but due to change in technology of ropeway, the work had been stopped at the site. The project was then applied at SEAC (Maharashtra) for modernization of the ropeway project which was deferred due to few conditions.

(iii) The proposed passenger Ropeway will be developed on the hill in Village Virar, Tehsil-Vasai, District-Palghar, Maharashtra. The details are as follows:

S.No.	Particular	Unit	Details
1	Plot Area	sqm	19500
2	Number of Terminals	No.	2
3	Carrying capacity	PPH	1200 per Direction
4	Hours of Operation	Hours	12
5	Length of ropeway	meter	400
6	Number of Cabins	No.	4
7	Travel Time	minute	3

(iv) The ropeway will be used to take Darshan at Shree Jivdani Devi Temple, Virar East, everyday and particularly on holidays and festival days. The average pilgrims are approximately 10000 per

day and during festivals and weekend may increase to 40000 to 50000 per day. The Managing Trust for the Temple, Shree Jivdani Devi Sansthan studied various alternatives to provide transport facilities to the devotees to climb the hill.

(v) The alignment falls within a Forest land which has been diverted for development of terminal stations & line towers. The forest land of the project is covering an area of 1.95 ha.

(vi) The project being a Ropeway falls under the activity 7 (g) of the EIA notification, 2006 and is a designated Project as per Schedule and falls under category A due to applicability of general condition as the project lies at 4.6 km E from ESZ of Notified WLS (Tungareshwar WLS) under Wildlife Protection Act 1972.

(vii) Total water requirement in normal days will be 43 KLD and in festival days will be 163 KLD mainly used for gardening, flushing, drinking, hand washing & horticulture purposes. Water will be sourced from VVCMC. The total quantity of wastewater generation in normal days will be 35 KLD and in festival days will be 137 KLD which will be treated in the Sewage Treatment Plant of 165 KLD capacity.

(viii) Power requirement during operation phase will be 800 KVA which will be sourced by the Maharashtra State Electricity Board (MSEB). Thus, DG sets installed during operation phase will be 1x500 KVA.

(ix) During normal days total Bio-degradable waste will be 350 Kg/day and recyclable waste will be 150 kg/day generated from the project and during festival days total Bio-degradable waste will be 1400 kg/day of and recyclable waste 600 kg/day will be generated from the project. The organic waste will be sent to Organic Waste Converter. The Recyclable Waste Collected and given to approved recycler.

(x) Used oil generated from the DG sets will be sent to authorize hazardous waste disposal authority.

(xi) Total cost of the project will be Rs. 1.25 crores.

(xii) The average visitors will be 10,000 nos., Visitors during festival days will be 40000-50000 and staff will be 25 no.

45.4.3.2. The EAC noted the following:-

(i) The proposal is for grant of Terms of Reference to the project Jivdani Passenger Funicular Ropeway at Virar, Maharashtra by M/s Shree Jivdani Devi Sansthan.

(ii) The project/activity is covered under category B of item 7(g) 'Ropeways' of the Schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at SEIAA/SEAC level. However due to applicability of general condition as the project lies at 4.6 km E from ESZ of Notified WLS (Tungareshwar WLS) under Wildlife Protection Act 1972, the project is apprised as Category at at Central Level by sectoral EAC.

(iii) Earlier, Environmental Clearance to the project was granted by Maharashtra SEIAA vide letter no. SEAC-2008/CR.26/TC2 dated 17.09.2009 for development of Ropeway based on Monocable pulsated fixed Grip Passenger Ropeway being developed by M/s Damodar Ropeways and Construction Co. (P) Ltd. on behalf of Jivdani Devi Sansthan.

45.4.3.3. *The project proponent informed the EAC that Jivdani Devi Mandir is a temple located on the hill in Virar, Maharashtra. The temple is on the hill, almost 230 m from the sea-level. The Goddess rests in a temple situated about 900 steps above the ground on a hill that forms a part of the Satpura Range in Virar, a northern Mumbai suburb, about 60 km away from Mumbai. The average pilgrims are approximately 10000 per day and during festivals and weekend may increase to 40000 to 50000 per day. Shree Jivdani Devi Sansthan Virar, is a Special Purpose Vehicle (SPV) incorporated under the Companies Act for implementation and operation of Jivdani Passenger Funicular Ropeway at Shree Jivdani Devi temple, at S. No. 398, Virar -E, Virar, Maharashtra on S.no Class A/Land/ 346/ year 2017-18 dated 25/10/2017 in order to promote tourism & model shift to transit and reduction in traffic congestion in the region. The project was granted Environmental Clearance vide letter no. SEAC-*

2008/CR.26/TC2 dated 17.09.2009 by Maharashtra SEIAA for development of Ropeway based on Monocable pulsated fixed Grip Passenger Ropeway being developed by M/s Damodar Ropeways and Construction Co. (P) Ltd. on behalf of Jivdani Devi Sansthan.

Thereafter, construction works had been started but due to change in technology of ropeway, the work had been stopped at the site. The project was then applied at SEAC (Maharashtra) for modernization of the ropeway project which was deferred in 150th SEAC meeting dated 4th May, 2018. The project falls under activity 7 (g) of the schedule of EIA notification, 2006 under category A, due to applicability of general condition as the project lies at 4.4 km E from Notified WLS (Tungareshwar WLS) under Wildlife Protection Act 1972 and 2.5 km from the Notified ESZ of Tungareshwar WLS dated 11th September, 2019. S.O. 3250(E).

The project proponent informed the EAC that no tree cutting is involved, however they are currently upgrading the existing degraded forest land in the nearby area. Till date more than 2 Lakh trees have already been planted since 2005 and taken care of.

After detailed deliberations on the proposal, the Committee *recommended for grant of Terms of Reference as specified by the Ministry as Standard ToR in April, 2015 for the said project/activity and the following TOR in addition to Standard ToR for preparation of EIA-EMP report:*

(i) Importance and benefits of the project.

(ii) Status of Stage-I forest clearance.

(iii) Status of clearance from National Board for Wild Life (NBWL).

(iv) Certified Compliance Report issued by the MoEF&CC, Regional Office or concerned Regional Office of Central Pollution Control Board or the Member Secretary of the respective State Pollution Control Board for the conditions stipulated in the earlier environmental clearances issued to the project along with an action taken report on issues which have been stated to be partially complied or non/not complied.

(v) Toposheet map of 10 km distance indicating eco-sensitive areas dully authenticated by the Wildlife warden.

(vi) Route map of proposed ropeway project.

(vii) Layout maps of proposed project indicating location of upper station and lower station, building, food court, parking, greenbelt area, utilities etc.

(viii) Numbers of persons/projections of tourist. Numbers of persons/projections of tourist. Any developmental activity, especially tourism related, leads to lot of ancillary developmental activities. This brings in quite a number of people in project area and in nearby areas as well. No estimation or study of this ancillary incremental population is generally conducted. Many a times this results in development of slums in areas near the project site. The projected study of the number of persons coming in the area, tourists and ancillary population should be conducted meticulously which should include the learning from other examples. This must include permanent resident influx along with the temporary tourists. The projection study should cover a time period of the estimated 30 to 50 years. The results of the study should be used to develop a mitigation plan so that slums do not develop in and around the project site.

(ix) Cost of project and time of completion.

(x) Details of air emission, effluents, solid waste and hazardous waste generation and their management.

(xi) Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).

(xii) The E.I.A. should specifically address to vehicular traffic management and parking facilities.

(xiii) Examine the ground water / water body contamination from septic tank/Soak pit.

(xiv) The impact of odors from the bio-toilets and its management.

(xv) The increment in foot falls as a result of implementation of the project along with a justification on the adequacy of the existing and proposed infrastructure including toilets.

(xvi) An assessment of the impact of all activities being carried out or proposed to be carried out by the project shall be made for traffic densities and parking capabilities in a 2 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up through an organization of repute and specializing in Transport Planning shall be submitted with the EIA.

(xvii) An onsite disaster management plan shall be drawn up to account for risks and accidents. This onsite plan shall be dovetailed with the onsite management plan for the district.

(xviii) The E.I.A. would study the safety risks associated with the construction and operation of the Ropeway and draw up a detailed safety management plan.

(xix) The impact of the ropeway on traffic movement, both at the L.T. and the U.T. will be examined and a plan submitted along with the E.I.A.

(xx) The E.I.A. would also submit a plan ensuring the segregation of passenger cars with luggage cars in the ropeway and work out the minimum size of baggage to be allowed on the passenger cabin cars.

(xxi) Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included.

(xxii) Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.

(xxiii) The project proponents shall satisfactorily address to all the complaints/suggestions that have been received against the project till the date of submission of proposals for Appraisal.

(xxiv) Plan for Corporate Environment Responsibility (CER) as specified under Ministry's Office Memorandum vide F.No. 22-65/2017-IA.III dated 1st May 2018 shall be prepared and submitted along with EIA Report.

(xxv) A tabular chart with index for point wise compliance of above ToR.

It was recommended that 'ToR' along with Public Hearing prescribed by the Expert Appraisal Committee (Infrastructure- 2) should be considered for preparation of EIA/ EMP report for the above mentioned project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. The draft EIA/EMP report shall be submitted to the State Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report.

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Agenda item No. 45.4.4.

Extension of Navigation Channel at Mazagaon Dock, Mumbai by M/s Mazagon Dock Shipbuilders Limited - Environmental & CRZ Clearance

(IA/MH/MIS/60102/2016; F.No.21-27/2016-IA-III)

45.4.4.1. The project proponent and the accredited Consultant M/s WAPCOS Limited gave a detailed presentation on the salient features of the project and informed that:

(i) The project is for Extension of Navigation Channel at Mazagaon Dock, Mumbai. MDL is located about 2.5 km north of Offshore Container Terminal (OCT) of Mumbai Port Trust (MbPT). The proposed navigation channel extends from the northern end of the Mazagon waterfront to OCT of Mumbai Port Trust (MbPT), Mumbai.

(ii) Proposed Project envisages dredging of navigation channel at Mazagaon Dock Shipbuilders Limited (MDL)

(iii) Water depth available in the Channel is about 1.5 m to 2.0 m below chart datum (CD) and 6.0 m to 6.5 m during a tide of 4.5 m.

(iv) It is proposed to dredge the channel up to -5.5.m near MDL to - 6 m near OCT.

- Length of existing navigation channel - 1km
- Length of proposed navigation channel - 1.8 km
- Width of the channel - 250 m
- Quantum of capital dredging - 3.0 Mm^3
- Quantity of maintenance dredging - 1.1 MTPA
- Total cost of capital dredging works - 210.20 Crore
- CWPRS has recommended 2 dumping sites : Site 1 (Latitude 18^0 53'00"N & Longitude 72^0 44'00"E) and Site 2 (Latitude 18^0 55'00"N & Longitude $72^0$42'00"E)

(v) The project would require dredging over an area of 250 to 350 m wide and 2.8 km long channel to make the channel navigable in all weather conditions.

(vi) There is no water requirement during construction phase, as construction activities are not envisaged in the project.

(vii) Total 50 persons are likely to be deployed on dredgers and 75 persons are likely to be deployed on barges during the dredging.

(viii) The fresh water requirement will be only for the operators of dredgers and would be of the order of 5625 liter/day (@45 lpcd x 125 persons). Sewage from the toilets of dredgers will be transferred to the existing sewage handling facilities at Mazgaon Dock.

(ix) There will be no solid waste generation as the proposed project does not involve any construction.

(x) Dredged material will be disposed off in deep sea locations suggested by CWPRS, Pune.

(xi) Proposed project envisages Dredging and Extension of Navigation channel at Mazagon Dock, Mumbai. Hence it does not require any power supply.

(xii) No rainwater harvesting structure proposed as a part of the project as the proposed project envisaged only dredging of navigation channel.

(xiii) Terms of Reference (ToR) for the project was granted by MoEFCC vide letter F.No.21-27/2016-IA-III dated 29.12.2016.

(xiv) Public hearing was conducted by Maharashtra State Pollution Control Board (MPCB) on 31.10.2017 at Collector Office, Mumbai City. No participant was present from public side.

(xv) Maharashtra State Coastal Zone Management Authority (MCZMA) has recommended the project for CRZ Clearance vide Letter No. CRZ 2018/CR 374/TC4 Dated 05.03.2019.

(xvi) Investment/Cost of the project is Rs. 210.20 Crore.

(xvii) Benefits of the project: MDL will be able to move the vessels without depending on the tidal conditions all through the year which is now restricted to 15-20 occasions depending on tide availability. There will be a drastic reduction in the delivery timelines of war ships and submarines to the Indian Navy. The project will enable MDL to deliver ships on time to Indian Navy for strengthening the nation's defence capability which is a crucial need of the hour.

(xviii) Employment potential: Total 50 persons are likely to be deployed on dredgers and 75 persons are likely to be deployed on barges during the dredging phase.

45.4.4.2. The EAC noted the following:-

(i) The proposal is for grant of Environmental and CRZ Clearance to the project 'Extension of Navigation Channel at Mazagaon Dock, Mumbai by M/s Mazagon Dock Shipbuilders Limited.

(ii) The project/activity is covered under category 'A' of item 7 (e) i.e. Ports, harbours, break waters, dredging' of the schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at Central level.

(iii) Terms of Reference (ToR) for the project was granted by MoEFCC vide letter No.21-27/2016-IA-III dated 29.12.2016.

(iv) Public hearing was conducted by Maharashtra State Pollution Control Board (MPCB) on 31.10.2017 at Collector Office, Mumbai City.

(v) Maharashtra State Coastal Zone Management Authority (MCZMA) has recommended the project for CRZ Clearance vide Letter No. CRZ 2018/CR 374/TC4 Dated 05.03.2019.

45.4.4.3. *Mazagon Dock Shipbuilders Limited (MDL) is having a water front of approximately 700 meters length which is used to launch ships and submarines into the sea. After launch, the vessels are taken for outfitting, trials etc. to the dry docks of MbPT or the Naval Dockyard. Navigational channel between MDL and Offshore Container Terminal (OCT) of Mumbai Port Trust (Kasara Channel) does not have adequate depth required for the movement of the vessels. Hence, MDL is dependent on tidal windows for movement of vessels, which results into loss of precious construction time.*

MDL proposes to develop ships of Destroyer class, requiring higher drafts. Water depth available in Kasara Channel is about 1.5 m to 2.0 m below chart datum (CD) and 6.0 m to 6.5 m during a tide of 4.5 m. Maximum draft of fully fitted warships proposed to be built at MDL would be about 8.0 m. MDL proposes extension of Navigation Channel between MDL and Offshore Container Terminal of MbPT. MDL appointed WAPCOS Limited to prepare Feasibility Report and conducting EIA Study for obtaining Environmental and CRZ Clearances. Mathematical Model Studies (MMS) to assess the feasibility of extension of from MDL waterfront to OCT berth of MbPT have been carried out by CWPRS, Pune

The Exert Appraisal Committee (EAC) has examined the details submitted in Form 2 and EIA Report prepared and submitted by the Consultant accredited by the Quality Council of India (QCI) / National Accreditation Board for Education and Training (NABET) on behalf of the Project Proponent. The information contained in the submitted Checklist / Form / Report with regards to project / activities have been examined. The Environmental impacts of the project/activities on the environment and the corresponding mitigation plans have been examined. The Environment Management Plans submitted by the project proponent is found to be practical. EAC also examined the issues raised in the public hearing and commitment made by the project proponent.

In addition, the project proponent has given undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA report and public hearing process. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environment Clearance given, if any, will be revoked at the risk and cost of the project proponent.

*The EAC, therefore, based on the information submitted, examination of the submitted documents, clarifications provided by the project proponent during appraisal of the project and after detailed deliberations on all the issues recommends the project for grant of environment clearance along with the following additional conditions over and above the Standard EC conditions stipulated by the Ministry for this category of project (specified at **Annexure-4** of the minutes) vide OM dated 04.01.2019, while considering the grant of Environmental and CRZ Clearance:*

(i) Construction activity shall be carried out strictly according to the provisions of the CRZ Notification, 2011. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.

(ii) All the recommendations and conditions specified by the Maharashtra State Coastal Zone Management Authority (MCZMA) who has recommended the project vide letter No. CRZ 2018/CR 374/TC4 Dated 05.03.2019 shall be complied with.

(iii) Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.

(iv) The project proponent shall comply with the air pollution mitigation measures as submitted.

(v) The Project proponent shall ensure that no creeks or rivers are blocked due to any activities at the project site and free flow of water is maintained.

(vi) Dredging shall not be carried out during the fish breeding season.

(vii) Dredging, etc shall be carried out in the confined manner to reduce the impacts on marine environment including turbidity and turbidly should be monitored during the dredging.

(viii) No underwater blasting is permitted.

(ix) Dredged material shall be disposed safely in the designated areas so that the dumped dredge material does not enter Thane creek and some part of the dredged material may also be utilized for beach nourishment. With the enhanced quantities, the impact of dumping on the coastal environment should be studied and necessary measures shall be taken on priority basis if any adverse impact is observed.

(x) Shoreline should not be disturbed due to dumping. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring report.

(xi) While carrying out dredging, an independent monitoring shall be carried out by Government Agency/Institute to check the impact and necessary measures shall be taken on priority basis if any adverse impact is observed.

(xii) The fresh water requirement of 5.625 KLD shall be met by water tankers through authorized supplier.

(xiii) Sewage from the toilets of dredgers will be transferred to the existing sewage handling facilities at Mazgaon Dock.

(xiv) Marine ecological studies and its mitigation measures for protection of phytoplankton, zooplanktons, macrobenthos, estuaries, mangroves, coral reefs, sea-grass beds, and oceanic island etc prepared by National Institute of Oceanography (NIO) as given in the EIA-EMP Report shall be complied with in letter and spirit.

(xv) A copy of the Marine and riparian biodiversity management plan duly validated by the State Biodiversity Board shall be obtained and implement in letter and spirit.

(xvi) A continuous monitoring programme covering all the seasons on various aspects of the coastal environs need to be undertaken by a competent organization available in the State or by entrusting to the National Institutes/renowned Universities/accredited Consultant with rich experiences in marine science aspects. The monitoring should cover various physico-chemical parameters coupled with biological indices such as microbes, plankton, benthos and fishes on a periodic basis during construction and operation phase of the project. Any deviations in the parameters shall be given adequate care with suitable measures to conserve the marine environment and its resources.

(xvii) Continuous online monitoring of for air and water covering the total area shall be carried out and the compliance report of the same shall be submitted along with the 6 monthly compliance report to the regional office of MoEF&CC.

(xviii) Effective and efficient pollution control measures like covered conveyors/stacks (coal, iron ore and other bulk cargo) with fogging/back filters and water sprinkling commencing from ship unloading to stacking to evacuation shall be undertaken. Coal and iron ore stack yards shall be bounded by thick two tier green belt with proper drains and wind barriers wherever necessary.

(xix) Sediment concentration should be monitored fortnightly at source and disposal location of dredging while dredging.

(xx) Marine ecology shall be monitored regularly also in terms of sea weeds, sea grasses, mudflats, sand dunes, fisheries, echinoderms, shrimps, turtles, corals, coastal vegetation, mangroves and other marine biodiversity components as part of the management plan. Marine ecology shall be monitored regularly also in terms of all micro, macro and mega floral and faunal components of marine biodiversity.

(xxi) Rock blasting, which adversely affects the local biota, is planned while dredging.

(xxii) There are chances of fish mortality due to blasting. During blasting, monitoring should be carried out for the health of fish also.

(xxiii) Spillage of fuel / engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life, particularly benthos. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.

(xxiv) Necessary arrangements for the treatment of the effluents and solid wastes/ facilitation of reception facilities under MARPOL must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986. The provisions of Solid Waste Management Rules, 2016. E- Waste Management Rules, 2016, and Plastic Waste Management Rules, 2016 shall be complied with.

(xxv) All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.

(xxvi) Measures should be taken to contain, control and recover the accidental spills of fuel and cargo handle.

(xxvii) Necessary arrangement for general safety and occupational health of people should be done in letter and spirit.

(xxviii) 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 the RO, MoEF&CC along with half yearly compliance report.

(xxix) The company shall draw up and implement corporate social Responsibility plan as per the Company's Act of 2013.

(xxx) As per the Ministry's Office Memorandum F.No. 22-65/2017-IA.III dated 1st May, 2018, project proponent has proposed an amount of Rs. 3.15 Crores (1.5% of the project cost) under Corporate Environment Responsibility (CER) Plan for the activities such as Waste management, Drinking water and sanitation, Skill Development, Solar Power Provision, Education (scholarship, Material and Academic support) and Healthcare support etc. The activities proposed under CER shall be restricted to the affected area around the project. The entire activities proposed under the CER shall be treated as project and shall be monitored. The monitoring report shall be submitted to the regional office as a part of half yearly compliance report, and to the District Collector. It should be posted on the website of the project proponent.

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Agenda item No. 45.4.5.

Proposed Installation of Single Point Mooring & Associated Infrastructure by M/s Coviva Energy Terminals Limited (a subsidiary of Nayara Energy Ltd Company) - Terms of Reference

(IA/GJ/MIS/113096/2019; F.No.10-43/2019-IA-III)

45.4.5.1. The project proponent gave a detailed presentation on the salient features of the project and informed that:

(i) Nayara Energy Ltd. has a plan to expand Refinery capacity from existing 20 MMTPA to 46 MMTPA in along with Petrochemical units and applied for Environment Clearance for the same. Existing SPM is not sufficient to handle the additional Crude required for future expansion.

Accordingly an additional SPM will be required. This SPM will be developed by M/s Coviva Energy Terminals Ltd, a subsidiary of Nayara Energy Terminals Ltd, the special purpose company created as per requirement of the Agreement signed with Deendayal Port Trust on 16th April 2015 for development of Marine facilities consisting of one SPM and two Product Jetties in DPT waters.

(ii) The plan to expand the Refinery capacity and the expansion of Marine facilities was envisaged in year 2007- 2008 itself. Accordingly EC for the SPM was obtained and extended / bifurcated vide letter F. No. 10-52/2007 IA III dated 26th October, 2016 which is valid up to 16.08.2019, however due to the prevailing business requirements the expansion project could not be implemented. Looking to the present expansion plan of the Refinery SPM is required to be installed to meet the requirement and accordingly EC and CRZ clearance is required for the same.

(iii) Coviva Energy Terminals Limited proposes to install new SPM and associated infrastructure (subsea pipeline) at OOT DPT (Deendayal Port Trust) Vadinar. SPM will be capable of mooring vessels from 87,000 DWT to 350,000 DWT. The crude from the tankers will be discharged via two flexible hoses (Double carcass type floating hoses) whose diameter will be 16" at the ship end & 24" at the inlet of SPM.Basic technical specifications of the existing SPM are as follows:

a.	Design Pressure:	18 bars
b.	Operating Pressure:	10 bars
c.	Operating Temperature:	20 to 45 deg C
d.	Maximum allowable discharge rate of tankers:	10000 m^3/hr

(iv) Submarine hose strings connect the SPM to Pipeline End Manifold (PLEM). The pipeline End

(v) Manifold (PLEM) is a steel base structure which supports the subsea pipeline termination.

45.4.5.2. During deliberations, the EAC noted the following:-

(i) The proposal is for grant of Terms of Reference to the project Proposed Installation of Single Point Mooring & Associated Infrastructure by M/s Coviva Energy Terminals Limited (a subsidiary of Nayara Energy Ltd Company).

(ii) The project/activity is covered under category 'A' of item 7 (e) i.e. Ports, harbours, break waters, dredging' of the schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at Central Level by sectoral EAC.

45.4.5.3. *The EAC noted that the instant proposal is for Installation of SPM and associated infrastructure. During presentation, the project proponent has informed the committee that the EC&CRZ clearance was granted earlier for both refinery and SPM, but due to some reasons, the SPM work could not be initiated in stipulated time. However, the project proponent has not provided the specific information relevant to the proposed proposal and mixed up the details of the Environmental Clearance obtained earlier for Refinery and EC&CRZ Clearance for Port project. While the proposal is for balance work of the SPM and the associated facility which was part of earlier EC & CRZ Clearance. The project proponent also requested the committee to consider the earlier clearance and waive off the public hearing for the project as it was conducted earlier. The committee has turned down the request and asked the project proponent to resubmit the fresh proposal giving specific details for the present project.*

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Agenda item No. 45.4.6.

Development of Ferry Services for Passenger and Vehicle movement connecting Old Mundra Port and Rozi Port by M/s Gujarat Maritime Board - Terms of Reference

(IA/GJ/MIS/119696/2019; F.No.10-44/2019-IA-III)

45.4.6.1. The project proponent and the accredited Consultant M/s Cholamandalam MS Risk Services Ltd. gave a detailed presentation on the salient features of the project and informed that:

(i) Gujarat Maritime Board (GMB) has decided to open the new avenue for passenger traffics across the Gulf of Kutch i.e. between Rozi Pier in Jamnagar and Old Port Mundra in Kutch District.

(ii) The proposed development includes of two RO-RO ferry Facilities with dredging and Floating Pantaloons or utilizing existing RCC Jetty, one at Old Mundra Port, Mundra of Kachchh district and another at Rozi port, Jamnagar district of Gujarat. Capital dredging, construction of Floating Pantaloons, Approach roads, Internal Roads, Administrative building, Terminal Building, Toilets, Waiting area, Ticket counter, Security Office, Green belt and Parking Area will be provided as part of the development so as to facilitate the RO-RO ferry services. Accordingly, the proposal is formulated by GMB to upgrade the existing Port facilities at Rozi Pier and Old Port Mundra. Mainly dredging of maintenance nature shall be carried out to deepen the silted channels so ferries may be directly plied in -3 m depth during all the state of tide.

(iii) It is assumed that total five round trips are envisaged of ferries between Rozi Pier and Old Port Mundra. Each ferry would take 150 passengers and total 100 vehicles in form of loaded trucks, cars and busses. This will reduce travelling distance & time by 45 km in 3 hours against road distance of 282 km in 7 hrs time.

(iv) The project details are as follows:

(v) The proposed project includes capital dredging during construction phase and maintenance dredging during operation phase. The dredging details are presented below,

Port	Maintenance Dredging	Recurring Dredging	Unit
Old Mundra Port	1.5	0.15	M.Cu.m
Rozi Port	1.2	0.12	M.Cu.m

(vi) Construction of floating jetty/ floating pontoons is proposed at existing jetties of Old Mundra port and Rozi Port to facilitate docking of RO-RO vessels in varying tide conditions.

(vii) Construction of approach roads to the floating jetties are proposed at Old Mundra Port and Rozi Port.

(viii) Construction of ancillary infrastructure facilities such as internal roads, security office, greenbelt area, parking area, terminal building which includes administrative buildings, toilets, waiting area and ticket counter.

(ix) During construction phase, water of quantity 22.75 KLD will be sourced from nearby vendors and during operation, water of quantity 20 KLD will be sourced from nearby vendors.

(x) Solid and other domestic wastes that are generated during the construction phase of the project are 25 kg and during operation phase, the waste generated is 428 Kg. The wastes that are generated will be collected, segregated, stored and disposed to local Municipality or the existing facilities or as per CPCB guidelines.

(xi) Old Mundra port and Rozi port have an existing power supply of 6.5 kVA and 75kVA. No additional power will be required for the proposed developments during construction and operation phase.

(xii) The proposed developments will be undertaken within 12 months after obtaining prior clearances from the competent authorities. The estimated project cost for the development of proposed project is 100 crores with prefabricated structures 5 crores (2.5 crores for each facility), Dredging cost for Rozi is 45 Crores and for Mundra is 50 crores and rest is miscellaneous.

(xiii) Employment Generation: Due to the proposed development, employment opportunities will be generated for 106 people during operation and 50 during construction.

(xiv) Project Benefits: This proposed project will to provide economical means of transport between Mundra and Jamnagar and Reduce the travel time from Mundra to Jamnagar. In addition to this,

it is seen that if the project is fully implemented, there may be likelihood of the not only some reduction in traffic congestion but also help reduce carbon foot print i.e. roughly, 80 MT CO_2 will not be emitted and yearly around 26,546 MT will not be emitted. This seems to be larger benefit to the society in addition to time saving and traffic congestion

45.4.6.2. During deliberations, the EAC noted the following:-

(iii) The proposal is for grant of Terms of Reference to the project Development of Ferry Services for Passenger and Vehicle movement connecting Old Mundra Port and Rozi Port by M/s Gujarat Maritime Board.

(iv) The project/activity is covered under category 'A' of item 7 (e) i.e. Ports, harbours, break waters, dredging' of the schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at Central Level by sectoral EAC.

45.4.6.3. *After detailed deliberations on the proposal, the EAC recommended for grant of Terms of Reference (ToR) as specified by the Ministry as Standard ToR in April, 2015 for the said project/activity and the following ToR in addition to Standard ToR for preparation of EIA-EMP report:*

(i) Importance and benefits of the project.

(ii) Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scale.

(iii) Recommendation of the SCZMA.

(iv) Submit a complete set of documents required as per para 4.2 (i) of CRZ Notification, 2011.

(v) The project proponents shall satisfactorily address to all the complaints/suggestions that have been received against the project till the date of submission of proposals for Appraisal.

(vi) Status of clearance from National Board for Wild Life (NBWL).

(vii) Various Dock and shipbuilding facilities with capacities for existing and proposed project.

(viii) Study the impact of dredging on the shore line.

(ix) Environmental impacts of hard rock dredging both in terms of hydrology, sedimentology and biodiversity shall be studied. Alternative methods to hard rock dredging would be suggested.

(x) The E.I.A. would include a chapter on how the project conforms to the C.R.Z. management plan being drawn up by the State Government in compliance to NGT orders.

(xi) A certificate from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.

(xii) The EIA would also present the compliance of the existing activities with the Water, Air and the E.P. Acts including position with regards to consent and Authorizations.

(xiii) The Air Quality Index shall be calculated for base level air quality.

(xiv) The EIA would study the impact of dewatering and draw up an action plan for disposal of the excess water.

(xv) The EIA would study the impact of Demolition and conformance to the Construction and Demolition Rules under the E.P. Act 1986.

(xvi) The E.I.A. would include a chapter on redressal of all representations received by the project proponents (from what sown source) on the proposed project.

(xvii) The project proponents would commission a third party study on the implementation of conditions related to quality and quantity of recycle and reuse of treated water, efficiency of treatment systems, quality of treated water being supplied for flushing (specially the bacterial

counts), comparative bacteriological studies from toilet seats using recycled treated waters and fresh waters for flushing, and quality of water being supplied through spray faucets attached to toilet seats. The report should be put on the public domain and also on the website of the Company.

(xviii) Study the impact of dredging and dumping on marine ecology and draw up a management plan through the NIO or any other institute specializing in marine ecology.

(xix) A detailed analysis of the physico-chemical and biotic components in the highly turbid waters round the project site (as exhibited in the Google map shown during the presentation), compare it with the physico-chemical and biotic components in the adjacent clearer (blue) waters both in terms of baseline and impact assessment and draw up a management plan.

(xx) Details of Emission, effluents, solid waste and hazardous waste generation and their management in the existing and proposed facilities.

(xxi) Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).

(xxii) Wastewater Management Plan.

(xxiii) Details of Environmental Monitoring Plan.

(xxiv) Submit Protection plan for mangroves.

(xxv) Mitigation plan for fisheries.

(xxvi) To prepare a detailed biodiversity impact assessment report and management plan through the NIOS or any other institute of repute on marine, brackish water and fresh water ecology and biodiversity. The report shall study the impact on the rivers, estuary and the sea and include the intertidal biotopes, corals and coral communities, molluscs, sea grasses, sea weeds, subtidal habitats, fishes, other marine and aquatic micro, macro and mega flora and fauna including benthos, plankton, turtles , birds etc. as also the productivity. The data collection and impact assessment shall be as per standard survey methods.

(xxvii) A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project.

(xxviii) A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point.

(xxix) Indoor Air Quality shall be maintained as per prescribed standards. Compliance to indoor Air quality standards shall be certified by the MCI or its designated agency.

(xxx) A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.

(xxxi) The EIA would provide an item wise compliance of the proposals to the ECBC norms.

(xxxii) An assessment of the cumulative impact of all development and increased inhabitation being carried out or proposed to be carried out by the project or other agencies in the core area, shall be made for traffic densities and parking capabilities in a 05 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up through an organization of repute and specializing in Transport Planning shall be submitted with the EIA. The Plan to be implemented to the satisfaction of the State Urban Development and Transport Departments shall also include the consent of all the concerned implementing agencies.

(xxxiii) Disaster Management Plan for the above terminal.

(xxxiv) Layout plan of existing and proposed Greenbelt.

(xxxv) Status of court case pending against the project.

(xxxvi) District wise Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.

(xxxvii) A tabular chart with index for point wise compliance of above ToRs.

(xxxviii) Since the ferry route is in ecologically sensitive region, coral (intertidal and subtidal) baseline study should be conducted in the route.

It was recommended that 'ToR' along with Public Hearing prescribed by the Expert Appraisal Committee (Infrastructure-2) should be considered for preparation of EIA / EMP report for the above mentioned project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. The draft EIA/EMP report shall be submitted to the State Pollution Control Board for public hearing. The issues emerged and response to the issues shall be incorporated in the EIA report.

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45.5 Any other item with the permission of Chair.

45.5.1. Proposed Ship Recycling Facility at West Port, Mundra, Kutch, Gujarat by M/s. Adani Ports and Special Economic Zone Limited (APSEZL) - Submission of Regional Strategic Impact Study Report & Reconsideration for Environmental & CRZ Clearance (Proposal No IA/GJ/MIS/51652/2012; F.No.11-7/2012-IA.III)

45.5.1.1. The EAC was informed that the instant proposal was considered by the earlier EAC in its meeting held during 22-24 January, 2014, 21-22 March, 2014, 23-24 May, 2016 and 29th June, 2016 respectively and was recommended for grant of environmental and CRZ clearance.

The proposal was processed for approval of Competent Authority. It was inter-alia found that the project proponent has not submitted Regional Strategic Impact Study Report as per the directions issued by the Ministry vide Order dated 18.09.2015 while disposing of the show-cause notices dated 15.12.2010 and 30.09.2013. The project proponent was asked to submit the same. In response, the project proponent has submitted Regional Strategic Impact Study Report and NOC from SPSB. It was also decided that the compliances of the queries raised which were received after the EAC recommendation may be placed before the EAC again for a wider deliberation on each of the query and issue raised. The EAC may also examine the issue in light of the studies done by the Project Proponent. Accordingly, the proposal was placed before the EAC in its 45th meeting held during 17-18 October, 2019.

45.5.1.2. During deliberation, the project proponent informed the EAC that in view of compliance with the directions issued by Ministry of Environment, Forest and Climate Change (MoEF&CC), Gujarat Coastal Zone Management Authority (GCZMA) in its 21st meeting held on 7th February, 2014 has directed APSEZ to submit Terms of Reference (ToR) to undertake a *"Cumulative Impact Assessment study for the projects already granted Environmental and CRZ clearance in the region so that future developments can be assessed for providing necessary approvals at a later stage".*

GCZMA has approved ToR for undertaking Cumulative Impact Assessment (CIA) vide its letter no: ENV-10-2013-118-E dated 19th December, 2014.

In view of the above, APSEZ appointed M/s Cholamandalam MS Risk Services Limited (CMSRSL) for carrying out CIA Study. As part of the study, CMSRSL has conducted field surveys, prepared technical studies to identify possible impacts on various environmental attributes and derived a suitable macro level environment management plan. Brief summary of each of the environmental

attribute covered under the CIA study (including impact assessment and management plan) is mentioned in the subsequent paras:

1. Project Information

As per the ToR, all the facilities that are developed and approved (future development) within the 10 km radius (from the approved project boundary of APSEZ) of the study area have been considered for carrying out this CIA study. Pre-development status and approved future development for the next 15 years as per APSEZ master plan have also been considered for assessing the cumulative impacts and developing management plan. The major developmental activities in the study area are Waterfront Development Project (WFDP), Multi-product Special Economic Zone (SEZ), Thermal Power Plants (TPP) and other industries. It is understood that all the industrial facilities within the study area have obtained applicable permissions (including clearances and consents) from respective authorities under respective environment rules and notifications. CIA aims at the macro level environment and socioeconomic development plan in the study area. Such management plans are multi- dimensional and needs involvement of all concerned stakeholders for effective implementation.

The baseline environmental conditions are established in terms of environmental resources and environmental quality. Both primary baseline environmental monitoring data collection during March – June 2016 and published secondary data on various environmental attributes have been considered for the study. An attempt was made to assess the impacts on the natural resources, environmental quality and also regional socioeconomic aspects due to direct and induced growth in the region when all the existing and approved facilities within the study area are fully developed. Based on the outcome of the impact assessment, a strategic regional environment and social management plan has been developed.

2. Site condition

The study area of 10 km radius from the project site boundary falls in Mundra and Mandvi taluks of Kutch district. Study area experiences arid dry climate with a temperature variation of 14.1°C (Jan) to 35.1°C (May) and receives a average rainfall of 397.3 mm distributed in 18.1 days, major amount of rainfall occurs in July and August. The major wind pattern in the study area is blowing from north in winter and post monsoon with a wind velocity of 3.6 m/s to 5.7 m/s and wind blowing from west and southwest in monsoon and summer with a wind velocity of 5.7 m/s to 11.1 m/s. Overall description of the other environment parameters such as air, noise, water and marine are discussed in the subsequent sections.

3. Land Use

In order to identify the land use pattern in the study area, IRS-P6 LISS III Multispectral Satellite data of 2015 was used. It has been inferred, about 19,494 ha of the land has been utilized as built-up land for the development of APSEZ and other neighbouring developments viz., rural / urban settlements, industries, commercial/social/physical infrastructure facilities in the study region. among which, about 17,978 ha of land is utilized for industrial/port related developmental activities, in which 2,509 ha of land has been already developed as on date. Also apart from APSEZ developments, about 3,319 ha of land have been approved for other industrial developments with necessary infrastructure facilities in the region. An attempt has been made to assess the land use change that possibly may occur in 2030. It has been estimated that at the end of 2030, rural development in the region would increase by 760 ha and cultivable land will have marginal reduction due to various reasons such as scanty rainfall, land values etc., Due to protection and conservation of mangrove area, there could be a marginal increase in the mangrove footprint in the future, depending on the climatic conditions in the region. While the land use planning and development within the APSEZ area will be adopted as per the approved plan from time to time, certain level of changes in the land use in the study area would be experienced due to induced growth from various approved development activities. The major impacts predicted due to change in land use in the study area include increase in urbanization, possible increase in unauthorized settlements and labour camps in the neighbourhood and Mundra town, and conversion of some parts of the arable land into commercial and residential development due to induced economic

growth. Due to rapid economic and industrial growth in the Kutch region, significant number of construction workers, unskilled and semi-skilled workforce is available at Mandvi, Mundra, Anjar, Bhuj and Kandla towns. In order to avoid proliferation of slums in the region, APSEZ and other developmental activities shall source construction workers and unskilled workers from the local areas. Necessary provisions shall be included in the contractor's agreements to provide mandatory infrastructure facilities such as construction camps. In addition to the approved master plan, APSEZ has developed two townships accommodating 1668 households, to have control on the induced growth in the region due to migrated employees. Therefore, there is a need to develop a regional level master plan by the state government to demarcate the land use planning zones according to the National Land Utilization (NLU) policy suggested by the Department of Land Resources (Ministry of Rural Development; Government of India).

4. Traffic Assessment

Traffic assessment study has been carried out to estimate the possible traffic volume for the fully developed APSEZ facility including the possible induced growth in the region and assessing adequacy of the existing and proposed infrastructure facility in the region. It has been inferred that the overall traffic volume expected for the year 2030 at the state highway and national highway will be within the carrying capacity of the respective roads as per IRC standards. APSESZ master plan has also been designed with eight connecting roads to ease out the cargo movement from the facility to the state and national highway. None of these roads are passing through settlements, thereby avoiding traffic congestions in the respective villages. Hence the possibility of traffic congestion due to the proposed development will be significantly less. Necessary traffic sign boards on the eight artillery roads connecting APSEZ and state and national highway can be provided by Gujarat State Road Development Corporation (GSRDC) with the support from APSEZ as per IRC standards. APSEZ has been imparting driver training programs to all their contractors to enhance awareness on road safety. A dedicated driver training centre may be developed at Mundra town in association with district level traffic police authorities. Driver Skill Improvement (DSI) programs include defensive driving training, establishing driver management centres, road safety awareness campaigns and driver accreditation program.

5. Water Resources

Natural water resources in the region include surface water from rivers, lakes, dams and groundwater. During the Baseline monitoring, all the surface water bodies within the study area were found to be dry and same is the situation throughout the year except rainwater during monsoon. Hence no surface water was collected for assessment. Ground water samples were collected and analyzed for physicochemical and biological parameters and compared with drinking water standards. It has been observed that the ground water in most of the stations is under stress due to salinity ingression. There could be an increase in pressure on the ground water resources in the Mundra region due to induced growth, when the region is fully developed. Government of Gujarat has been developing fresh water supply system to Kutch and Mundra region under Narmada Water canal and pipeline project. Under Sardar Sarovar canal project, Govt. of Gujarat has proposed to implement about 8200 km stretch of water canal and the project is at various stages of implementation. Under this project, about 112,000 ha of land in about 180 villages will be benefitted with irrigation needs. This will significantly reduce the pressure on the ground water resources in the region.

Impacts due to reduction of water flow in a watershed due to multiple withdrawals – Since the area experiences scanty rainfall, all the streams and rivers are dry for most of the year. Fresh water drawl from the fresh water lakes or reservoirs are not envisaged for the developmental activities in the study area and hence the overall impacts on the fresh water (surface water) resources is less significant. There could be a possibility of increase in ground water extraction in the Mundra region due to induced growth. Therefore regional level watershed development programs and ground water resources management plan shall be implemented by the state and district administration.

Impacts on fresh surface water resources in terms of quality and quantity including natural streams and storm water runoff – According to the master plan of APSEZ, no hindrance to the seasonal

streams in the study area is envisaged. While the respective industrial facilities and development projects in the area will be installing wastewater and sewage treatment facilities, sewage generation from Mundra town and region, after fully developed scenario would pose some impact on the quality of the marine and surface water bodies, if not managed properly. Therefore a detailed Mundra town sewage collection and treatment program shall be implemented based on the progress on the induced growth scenario in the region.

Impacts due to increase in sediment loads on a watershed or increased erosion – As mentioned earlier, all the streams in the study area are non-perennial in nature. Several check- dams and weirs have been constructed by the district administration on the upstream of these streams, hence possibility of excessive sediment transport in these streams is not envisaged.

Ground water resources in terms of quality and quantity and Impact from sea water ingression and salinity issues due to industrial development and also induced growth – Based on the detailed study and long term ground water quality data, it is noted that no major variation in salinity levels in the study area was observed during the past five years. It is also observed that study area predominantly falls under low and medium saline ground water category. No specific correlation could be made between power plant intake and outfall operations and ground water salinity levels in the western and central part of the study area. There could be a possibility of increase in TDS of the ground water in future due to possible increase in ground water extraction associated with induced growth in the neighbouring areas. This aspect can be further enhanced due to variations in the rainfall and climate change related aspects.

Since the study area is falling under the tail-end of the macro watershed of the rivers, the potential for further conservation of surface runoff by constructing any check-dams or weirs may be less successful. Adani Foundation has been contributing to various watershed development projects in the Mundra region to enhance ground water resources in the area. Adani Foundation has contributed about Rs. 300 Lakhs so far for the development of 18 check dams under the “Sardar Patel Sahbhagi Jal Sanchay Yojna”. Adani Foundation is planning to implement the following water resources conservation program in next ten years: (i). Generating water management knowledge system with community and transfer it in next generation through capacity building of Bhujal and Khet Jankars and setting up water enterprise in the project area, (ii). Developing water resource monitoring program and estimation methods for use water allocation and demonstrating action research activities for supply side and demand side management of water resource in general and groundwater in specific, (iii). Establishing ground water and surface water observation network system for studying the hydro-geological cycles of the area that can help the macro-watershed development programs in the region, (iv). Setting up and strengthening of cluster level water resource management group for surface and groundwater management to work as a community based water management institution and (v). To raise awareness among various stakeholders about participatory groundwater management in water scarce and coastal region.

6. Shoreline Change Assessment

Shoreline is the physical interface between land and water, which is dynamic in nature. The position of shoreline could change through time, because of cross-shore and alongshore sediment movement in the littoral zone and especially because of the dynamic nature of water levels at the coastal boundary. Shoreline change may occur due to both natural and the man- made processes. The developmental activities within APSEZ include ports, SEZ and other ancillary support infrastructure. While preparing the master plan of waterfront development project, detailed modelling studies for hydrodynamic and morphological change were carried out by NIO in 2008. As part of this CIA study, the possible changes in shoreline that may occur due to the proposed developments in 10 km area on either side of the waterfront development project have been studied. It has been inferred from the modelling study that the shift in the shoreline is less than 0.5m/year, which reconfirms that the APSEZ facility would pose insignificant impact on the Mundra shoreline. Based on the study outcome it is recommended to map the coastal morphology (Shoreline change) at least once in three years. In case of any major changes in the waterfront development configuration along the beach side, detailed hydro-dynamic modelling shall be

undertaken to assess the long term shoreline change issues such as erosion and accretion. This will help to adopt a sustainable port development program at Mundra.

7. Ecology

The biological environment of terrestrial ecosystem of Mundra region was established through the estimation of Flora and Fauna present within the study area. Based on the observations made during the baseline studies, about 34 species of trees have been observed within the study area. Presence of avifauna in any area represents the health of its biological environment. Healthy and thick green cover, availability of water and food makes an area suitable for the bird's diversity. The current study shows 65 species of birds within the study area. In general, migration of birds in India is restricted to a main route. The Kutch, Banaskantha and Kathiawar Peninsula are on this main route through which hordes of migratory birds sweep into India from the North and NW in autumn and out in the reverse direction in spring. This region also forms the eastern fringe of many Asiatic passage migrants. No notified bird sanctuaries and wetlands are located within the study area and Mundra region.

In the marine ecosystem, the biological parameters such as the phytoplankton, zooplankton, and benthic organisms showed an improvement in winter 2017 compared to pre-monsoon and post-monsoon 2016 with respect to their population. Based on the satellite data for the year 2015 (Level 2 land use map), mangrove footprint in the study area is about 1900 ha. In addition to mangrove footprint area, sparse mangrove growth was also observed at few patches, whose growth would depend on rainfall and availability of fresh water runoff in the creek. The current mangrove footprint within the mangrove conservation area (1254 ha) is about 526 ha as against 330 ha (Year-2008) as reported in the EIA report of WFDP by NIO. This aspect indicates that significant growth of mangrove is experienced in the conservation area over the past decade.

Most likely possible impacts due to change in land use, development activities and also induced growth at Mundra region are limited access to the coast by the fishermen due to construction of various waterfront and shore based facilities and contamination of sea water due to municipal sewage and industrial discharges. In order to facilitate free movement of local fishermen to the coast, APSEZ has provided seven access routes through the APSEZ area. These approach roads covering about 25km within the APSEZ land are regularly being used by fisherman for approaching sea through the respective Bandars.

8. Air Environment

The baseline monitoring revealed that the Ambient Air Quality parameters within the study area are well within the NAAQ standards at all the eight monitoring locations. In order to predict the air quality for the future scenario, considering the developments that the region would experience in the next 15 years, a numerical tool of ISCST-3/AERMODE was used. It has been observed that the air quality (predicted GLC) in the region is well within the NAAQ standard even after all the approved developments are installed and in operation.

In order to meet the air quality standards within the region, good management practices are suggested, (i.e.,) Developing emission inventory trends is essential to evaluate the emission budget proposed during the planning stage as against the actual emission levels during the operation phase due to change in economic and industrial scenario in the region. Emission inventory will help to reorient emission control strategies for each sector to meet the NAAQs. While the regulated industries and developmental activities are required to adopt air quality monitoring program as per the directions given under Environmental Clearance and Consent to Operate issued by concerned authorities, a regional level air quality monitoring program can be adopted by State Pollution Control Board by installing a network of three continuous air quality monitoring stations in the Mundra region as a joint collaboration with all the concerned stakeholders within the study area.

9. Noise Environment

The baseline monitoring revealed that the noise level in the study area is well within the standards at all the monitoring locations except Shiracha during night time. The noise modelling study has been carried out to predict the noise level in the region when all the approved facilities are

operational. It has been predicted that the noise levels generated from the SEZ facilities are well within the industrial area limit of 75 dB (A), based on the assumption that all the existing and proposed project activities within the study area are simultaneously operating at peak production capacities (worst case scenario). It can be noted from the modelling results that, noise levels from the highways will be naturally attenuated to less than background levels [50 dB(A)] within 100m from the road stretch. The predicted noise levels are within the community level standards of 65 dB(A) for commercial area. There may be a possible increase in the road tarffic on the state highway near the Mundra town and also anticipated increase in commercial activities, background noise levels would marginally increase from the current levels. Therefore a robust town planning program shall be adopted by the district administration to avoid traffic congestions in the Mundra town in future. APSEZ has been regularly monitoring noise levels within the operational facilities. During the operational phase of SEZ, all the tenant industries and facilities are required to undertake noise monitoring at their facilities to demonstrate the compliance with the noise level standards for the industrial facility [70 dB(A) at the facility boundary].

10. Solid and Hazardous waste

Any activity such as industrial, port operations, power plants, social infrastructure facilities and community activities would generate certain types of solid and hazardous wastes. According to the resource reuse and conservation concepts, solid waste can be termed as the materials that have no further direct use either in the process or end application for a designated operation. Further the wastes can be managed by giving emphasis to prevention, reduction, reuse, recycling, recovery and disposal, with prevention being the most preferred option and the disposal at the landfill being the least. It has been estimated that solid waste generated from facilities within the APSEZ will be in the order of 100TPD. APSEZ will continue to adopt Zero Waste Initiative and wastes will be segregated at source and disposed to various recycling vendors, co-processing in cement plants etc. While the individual tenant industries of APSEZ are required to adopt waste segregation practices at the source as per MSW Rules 2016, APSEZ has made a provision for central waste management facilities within the existing site based on the future needs. APSEZ complies with the statutory laws & regulations with respect to waste management. It has developed a vision for Zero Waste under the Zero Waste Initiatives, by adopting 5R principles of waste management (Reduce - Reuse-Recycle-Recover-Reprocess) to avoid the disposal of waste back to the environment. As on date, entire waste generated from APSEZ is being collected, segregated and finally disposed to recycling vendors and similar practices shall be adopted in future. As part of the Zero Waste Initiatives, no landfill facilities will be installed at APSEZ. Hence the soil and ground water contamination related aspects due to landfill development and closure are not envisaged. As per the master plan of APSEZ, Waste to Energy facilities such as incinerator are not proposed, hence the environmental impacts due to emissions from Waste to Energy facilities are not envisaged.

11. Marine Environment

The study area falls in the northern part of Gulf of Kutch and has vast intertidal region and tidal influenced creeks. Tidal variation in the study area is about 3.0m to 6.5m and the current speed in the study area is about 0.7m/s to 2.5m/s.

Marine Water Quality

Marine water samples were collected at 8 locations for three different seasons within the 10km radius of the study area and assessed for various physicochemical parameters. It has been observed that the traces of heavy metals such as Iron, Copper, Zinc and Magnesium were observed at few stations. Oil and grease content in all the samples in all the seasons were less than 2mg/l. All the physicochemical parameters in marine water are found to be similar in all the three seasons, no abnormality was observed.

Marine Sediment Quality

Marine sediment samples were collected at 8 locations for three different seasons within the 10km radius of the study area and assessed for various physicochemical parameters. It has been observed that the texture of sediment is predominantly sandy followed by clay. Traces of heavy

metals such as Zinc, Copper, Iron, Manganese and Chromium were found in few stations. All the physicochemical parameters in marine sediment are found to be similar in all the three seasons except iron and copper in few stations, no abnormality was observed.

Marine Ecology

Marine ecology of the study area includes the phytoplankton, zooplankton, benthos, mangroves and fishery resources. Maximum diversity of phytoplankton was observed in post monsoon and winter. Maximum diversity of zooplankton was observed in post-monsoon and summer. The dominating benthos group in the study area are Polychaetes, Copepods, Amphipods, Isopods, Gastropods, Nematodes and Bivalves. Creeks in the region has rich and dense mangrove patches with species of Avecinnia marina as dominating, Rhizophora mucronata and Ceriops tagal. Pagadiya fishing and small motorized boats are the two common methods of fishing that is being carried out within the study area. Hydrodynamics and Outfall Dispersion Study

Hydrodynamic (HD) model study was carried out in order to determine the circulation features. Thermal and Salinity Dispersion Study has been carried out using Advection- Dispersion (AD) module to assess the thermal and salinity dispersion pattern. It was inferred that the surface current speed in the study area is in the range of 0.85m/s to 1.3m/s, whereas the surface current in the centre portion of Gulf of Kutch is considerably high in the range of 1.3m/s to 2.0m/s. Tidal pattern in the study area is predominantly semidiurnal with water level variation of 3.0 to 6.5m. The marine outfall modelling of return sea water (cooling water) from the thermal power plants inferred that the temperature gets diluted rapidly within a distance of 1.5km during “Spring-Flood” and “Neap-Flood” conditions, whereas during “Spring-Ebb” and “Neap-Ebb” conditions, the temperature gets diluted and reaches background temperatures within a distance of 5.1 km from the outfall points for Coastal Gujarat Power Limited and 3.6 km for Adani Power Limited respectively. Model results indicated that the salinity rise (ΔS) in the background sea water due to CGPL outfall and APSEZ’s power plant and desalination plant rejects is less significant. In the case of Adani Power Limited, salinity gets dispersed rapidly during spring-flood and neap-flood conditions within the vicinity of the discharge point. During the spring-ebb and neap-ebb conditions, the salinity gets diluted to background levels within 3.9 km from the combined outfall.

12. Oil Spill Study

Waterfront development and SEZ activities are associated with transportation of goods, material and human resources during the construction and operational phases of the project. Oil spills, although a very low probability event, might pose certain level of ecological and environmental impacts in the region if proper oil spill response measures are not deployed in a definite time before the plume reaches the shore and other ecologically and economically sensitive zones in the region. Oil spill assessment study was carried out for different scenarios to identify the possible impact zones. It has been inferred that, at lower wind speeds during winter season, oil spill dispersion is a tidal dominant phenomenon; hence the oil slick will get dispersed in the western and eastern direction of the Gulf in cyclic pattern. Due to this reason, the possibility of oil slick reaching southern coast of the gulf within 24 hours is meagre. Therefore due to adoption of oil spill response programs within 5 hours of the spill event will help to retain the oil within the core zone of spill site near the port. During the summer season, due to higher wind speeds and also prevailing winds towards northern coast of the gulf, oil slick would reach South Port and West port of APSEZ and its environs within 18 to 24 hours depending on tidal conditions. This aspect indicates that the oil spill dispersion is highly dependent on the wind speed and wind direction, instead of tide and current during summer season. The spilled oil slicks will travel much faster during the first few hours with a peak transport velocity.

13. Socio-economic Profile

Socio-economic activities are interdisciplinary programs. The respective project proponents will be adhering to the regulation pertaining to land acquisition, protection of archaeological and heritage sites, corporate law related to Corporate Social Responsibility programs, guidelines issued by local town and regional planning authorities and protecting & adhering to the rights of the vulnerable populations. The 2011 census indicated that the overall working population has increased in Mundra taluk, which is an indicator of economic development in the region. The adult sex ratio within the study area has decreased drastically from the year 2001 to 2011, whereas the child sex

ratio seems to be in the normal range. Reduction in adult sex ratio is directly related to the increased number of in-migrants in the region. Due to the induced development, primary and secondary amenities in the region seem to be gradually developed and various socioeconomic indicators seem to be similar to the state and national average. The population growth in Mundra town prompts for a detail planning for developing infrastructure such as sanitation, sewage treatment and municipal solid waste management. Adequate infrastructures such as schools, hospital, township etc. have been developed by APSEZ to cater the needs of the employees of APSEZ. Socioeconomic management programs are of regional strategy importance, so they need involvement from all the stakeholders in the region.

14. Summary

The CIA study is comprehensive and overall findings of the CIA study reveal that the quality of the environmental attributes such as air, noise, water, soil and ecology in the region are healthy in terms of quality at present (baseline assessment). All the criteria parameters of environmental attributes are well within the applicable standards of the respective attributes. Based on modelling studies for impact assessment and other technical studies, it is expected that the predicted quality of the said environmental attributes in the fully developed scenario (by the year 2030), will be well within the prescribed standards. However, considering the scale of developmental activities, a robust environment management plan is proposed as part of the CIA study. It shall be ensured that the said EMP is implemented by the respective implementation agencies i.e. APSEZ, member industries within SEZ, other industrial units around APSEZ and the respective Govt. agencies, from time to time. Nearly 9 lakh people are expected to settle in the Mundra region. All facilities, including housing, drinking water, sanitation, drainage system etc should be provided for different categories of people.

45.5.1.3. *The EAC during deliberation noted that Gujarat Coastal Zone Management Authority vide letter no. ENV-10-2013-106-E dated 18th January, 2014 has recommended the above mentioned proposal to MoEF&CC under the provisions of the CRZ Notification, 2011. As per provisions of CRZ Notification, 2011, the clearance accorded to the projects under the CRZ notification shall be valid for the period of five years from the date of issue of the clearance for commencement of construction and operation. The Committee after detailed deliberation asked the project proponent to submit the following for further deliberation on the proposal:*

(i) Fresh recommendation of GCZMA.

(ii) Upload all the information on the Ministry's website which was submitted to the Ministry/EAC after recommendation by the earlier EAC.

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LIST OF PARTICIPANTS OF EAC (INFRASTRUCTURE-2) IN 45th MEETING OF EAC (INFRASTRUCTURE-2) HELD ON 17-18 OCTOBER, 2019

S. No.	Name	Designation	Attendance		Signature
			17th Oct 2019	18th Oct 2019	
1.	Prof. T. Haque	Chairman	P	P	
2.	Dr. N. P. Shukla	Member	P	P	
3.	Dr. H. C. Sharatchandra	Member	P	P	
4.	Shri V. Suresh	Member	P	P	
5.	Dr. V. S. Naidu	Member	P	P	
6.	Shri B. C. Nigam	Member	P	P	
7.	Dr. Manoranjan Hota	Member	P	P	
8.	Dr. Dipankar Saha	Member	P	P	
9.	Dr. Jayesh Ruparelia	Member	P	P	
10.	Dr. (Mrs.) Mayuri H. Pandya	Member	A	A	
11.	Dr. M. V. Ramana Murthy	Member	A	P	
12.	Prof. Dr. P.S.N. Rao	Member	A	A	
13.	Dr. Subrata Bose	Scientist F & Member Secretary	P	P	

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ANNEXURE-1

Standard EC Conditions for Project/Activity 7(a): Airport

I. Statutory compliance:

(i) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.
(ii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
(iii) The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan/Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of schedule-I species in the study area).
(iv) The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
(v) The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
(vi) Clearance from Directorate General of Civil Aviation (DGCA) and Airports Authority of India (AAI) for safety and project facilities shall be obtained.
(vii) A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
(viii) All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.

II. Air quality monitoring and preservation:

(i) The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM_{10} and $PM_{2.5}$ in reference to PM emission, and SO_2 and NOx in reference to SO_2 and NOx emissions) within and outside the airport area at least at four locations (one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions.
(ii) Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
(iii) A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.
(iv) Soil and other construction materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet
(v) The excavation working area should be sprayed with water after operation so as to maintain the entire surface wet.
(vi) Excavated materials shall be handled and transported in a manner that they do not cause any problems of air pollution.
(vii) The soil/construction materials carried by the vehicle should be covered by impervious sheeting to ensure that the dusty materials do not leak from the vehicle.

III. Water quality monitoring and preservation:

(i) Run off from chemicals and other contaminants from aircraft maintenance and other areas within the airport shall be suitably contained and treated before disposal. A spillage and contaminant containment plan shall be drawn up and implemented to the satisfaction of the State Pollution Control Board.
(ii) Proper drainage systems, emergency containment in the event of a major spill during monsoon season etc. shall be provided.
(iii) The runoff from paved structures like Runways, Taxiways, can be routed through drains to oil separation tanks and sedimentation basins before being discharged into rainwater harvesting structures.
(iv) Storm water drains are to be built for discharging storm water from the air-field to avoid flooding/water logging in project area. Domestic and industrial waste water shall not be allowed to be discharged into storm water drains.
(v) Rain water harvesting for roof run-off and surface run-off, as plan submitted should be implemented. Rain water harvesting structures shall conform to CGWA designs. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease.
(vi) Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
(vii) Sewage Treatment Plant shall be provided to treat the wastewater generated from airport. Treated water shall be reused for horticulture, flushing, backwash, HVAC purposes and dust suppression
(viii) A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.
(ix) A detailed drainage plan for rain water shall be drawn up and implemented.

IV. Noise monitoring and prevention:

(i) Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
(ii) Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipments.
(iii) Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.
(iv) During airport operation period, noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.
(v) Where construction activity is likely to cause noise nuisance to nearby residents, restrict operation hours between 7 am to 6 pm.

V. Energy Conservation measures:

(i) Energy conservation measures like installation of LED/CFLs/TFLs for the lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning.

VI. Waste management:

(i) Soil stockpile shall be managed in such a manner that dust emission and sediment runoff are minimized. Ensure that soil stockpiles are designed with no slope greater than 2:1 (horizontal/vertical).

(ii) The project activity shall conform to the Fly Ash notification issued under the E.P. Act of 1986.

(iii) Solid inert waste found on construction sites consists of building rubble, demolition material, concrete; bricks, timber, plastic, glass, metals, bitumen etc shall be reused/recycled or disposed off as per Solid Waste Management Rules, 2016 and Construction and Demolition Waste Management Rules, 2016.

(iv) Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.

(v) The project proponents shall implement a management plan duly approved by the State Pollution Control Board and obtain its permissions for the safe handling and disposal of:

a. Trash collected in flight and disposed at the airport including segregation, collection and disposed.
b. Toilet wastes and sewage collected from aircrafts and disposed at the Airport.
c. Wastes arising out of maintenance and workshops
d. Wastes arising out of eateries and shops situated inside the airport complex.
e. Hazardous and other wastes

(vi) The solid wastes shall be segregated as per the norms of the Solid Waste Management Rules, 2016. Recycling of wastes such as paper, glass (produced from terminals and aircraft caterers), metal (at aircraft maintenance site), plastics (from aircrafts, terminals and offices), wood, waste oil and solvents (from maintenance and engineering operations), kitchen wastes and vegetable oils (from caterers) shall be carried out. Solid wastes shall be disposed in accordance to the Solid Waste Management Rules, 2016 as amended.

(vii) A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.

(viii) Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.

VII. Green Belt:

(i) Green belt shall be developed in area as provided in project details, with native tree species in accordance with Forest Department. The greenbelt shall inter alia cover the entire periphery of the Air Port.

(ii) Top soil shall be separately stored and used in the development of green belt.

VIII. Public hearing and Human health issues:

(i) Construction site should be adequately barricaded before the construction begins.

(ii) Traffic congestion near the entry and exit points from the roads adjoining the airport shall be avoided. Parking should be fully internalized and no public space should be utilized.

(iii) Provision of Electro-mechanical doors for toilets meant for disabled passengers. Children nursing/feeding room to be located conveniently near arrival and departure gates.

(iv) Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

(v) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

(vi) Occupational health surveillance of the workers shall be done on a regular basis.

IX. Corporate Environment Responsibility:

(i) The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

(ii) The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

(iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.

(iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

(v) Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous:

(i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular languagewithin seven days and in addition this shall also be displayed in the project proponent's website permanently.

(ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

(iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

(iv) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

(v) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

(vi) The criteria pollutant levels namely; PM_{10}, $PM_{2.5}$, SO_2, NOx (ambient levels) shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

(vii) The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

(viii) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

(ix) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

(x) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

(xi) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

(xii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

(xiii) The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

(xiv) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data/ information/monitoring reports.

(xv) The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts/NGT and any other Court of Law relating to the subject matter.

(xvi) Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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ANNEXURE-2

Standard EC Conditions for Project/Activity 7(d): Common hazardous waste treatment, storage and disposal facilities (TSDFs)

I. Statutory compliance:

i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.
ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (incase of the presence of schedule-I species in the study area)
iv. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
v. The Project proponent should ensure that the TSDF fulfils all the provisions of Hazardous and other Wastes (Management and Transboundary Movement) Rules, 2016.
vi. The project proponents shall adhere to all conditions as prescribed in the Protocol for 'Performance Evaluation and Monitoring of the Common Hazardous waste treatment, storage and disposal facilities' published by the CPCB in May, 2010.
vii. Incinerator shall be designed as per CPCB guidelines. Energy shall be recovered from incinerator.
viii. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
ix. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
x. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities

II. Air quality monitoring and preservation:

i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 and connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognised under Environment (Protection) Act, 1986.
iii. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM_{10} and $PM_{2.5}$ in reference to PM emission, and SO_2 and NOx in reference to SO_2 and NOx emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions.
iv. Sampling facility at process stacks and at quenching towers shall be provided as per CPCB guidelines for manual monitoring of emissions.
v. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
vi. Appropriate Air Pollution Control (As proposed, air pollution control device viz. gas quencher; treatment with mixture of hydrated lime and activated powder for adsorption of partial acidity and VOCs (if any); bagfilter/ESP for removal of particulate matter; venturi scrubber followed by packed bed scrubber with caustic circulation to neutralize the acidic vapours in flue gas; and demister column for arresting water carry over will be provided to the incinerator) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.
vii. The periodical monitoring of Dioxins and Furans in the Stack emissions shall be carried out. Analysis of Dioxins and Furans shall be done through CSIR-National Institute for Interdisciplinary Science and Technology (NIIST), Thiruvananthapuram or equivalent NABL Accredited laboratory
viii. Gas generated in the Land fill should be properly collected, monitored and flared
ix. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 02 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 02 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

III. Water quality monitoring and preservation:

i. The project proponent shall install continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 and connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
ii. Sufficient number of Piezometer wells shall be installed in and around the project site to monitor the ground water quality in consultation with the State Pollution Control Board / CPCB. Trend analysis of ground water quality shall be carried out each season and information shall be submitted to the SPCB and the Regional Office of MoEF&CC.
iii. The project proponent shall submit monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water quality to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
iv. No discharge in nearby river(s)/pond(s).
v. The depth of the land fill site shall be decided based on the ground water table at the site.
vi. The Company shall ensure proper handling of all spillages by introducing spill control procedures for various chemicals.
vii. All leachates arising from premises should be collected and treated in the ETP followed by RO. RO rejects shall be evaporated in MEE. Toxicity Characteristic Leaching Procedure (TCLP) test to be performed on leachates.
viii. The Company shall review the unit operations provided for the treatment of effluents, specially the sequencing of MEE after tertiary treatment, the source of permeate when no R.O. is recommended and the treatment of MEE condensate. The scheme for treatment of effluents shall be as permitted by the Pollution Control Board/Committee under the provisions of consent to establish.

ix. Scrubber water, leachate water or wheel wash effluent shall be treated in the effluent treatment plant followed by RO to achieve zero liquid discharge.
x. Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
xi. Sewage Treatment Plant shall be provided to treat the wastewater generated from the project. Treated water shall be reused within the project.
xii. A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.
xiii. Rain water runoff from hazardous waste storage area shall be collected and treated in the effluent treatment plant.

IV. Noise monitoring and prevention:

i. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
ii. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.
iii. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.

V. Energy Conservation measures:

i. Energy conservation measures like installation ofLED/CFLs/TFLs for the lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning.

VI. Waste management:

i. The TSDF should only handle the waste generated from the member units.
ii. Periodical soil monitoring to check the contamination in and around the site shall be carried out.
iii. No non-hazardous wastes, as defined under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, shall be handled in the premises.
iv. The Project proponent shall not store the Hazardous Wastes more than the quantity that has been permitted by the CPCB/SPCB.
v. The solid wastes shall be segregated, managed and disposed as per the norms of the Solid Waste Management Rules, 2016.
vi. A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
vii. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Rules, 2016.

VII. Green Belt:

i. Green belt shall be developed in an area as provided in project details, with native tree species in accordance with Forest Department. The greenbelt shall inter alia cover the entire periphery of the project site.
ii. Top soil shall be separately stored and used in the development of green belt.

VIII. Public hearing and Human health issues:

i. Traffic congestion near the entry and exit points from the roads adjoining the project site shall be avoided. Parking should be fully internalized and no public space should be utilized.
ii. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
iii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
iv. Occupational health surveillance of the workers shall be done on a regular basis.

IX. Corporate Environment Responsibility:

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.
iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous:

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular languagewithin seven days and in addition this shall also be displayed in the project proponent's website permanently.
ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
vi. The criteria pollutant levels namely; $PM_{2.5}$, PM_{10}, SO_2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

x. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

xi. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xiii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts/NGT and any other Court of Law relating to the subject matter.

xvi. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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ANNEXURE-3

Standard EC Conditions for Project/Activity 7(da): Bio-Medical Waste Treatment Facilities

I. Statutory compliance:

i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.
ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (incase of the presence of schedule-I species in the study area)
iv. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
v. Transportation and handling of Bio-medical Wastes shall be as per the Bio-Medical Waste Management Rules, 2016 including the section 129 to 137 of Central Motor Vehicle Rules 1989.
vi. Project shall fulfill all the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 including collection and transportation design etc and also guidelines for Common Hazardous Waste Incineration - 2005, issued by CPCB Guidelines of CPCB/MPPCB for Bio-medical Waste Common Hazardous Wastes incinerators shall be followed.
vii. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
viii. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
ix. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities

II. Air quality monitoring and preservation:

i. The project proponent shall install emission monitoring system including Dioxin and furans to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 and connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
ii. Periodical air quality monitoring in and around the site including VOC, HC shall be carried out.
iii. Incineration plants shall be operated (combustion chambers) with such temperature, retention time and turbulence, so as to achieve Total Organic Carbon (TOC) content in the slag and bottom ashes less than 3%, or their loss on ignition is less than 5% of the dry weight of the material.
iv. Venturi scrubber (alkaline) should be provided with the incinerator with stack of adequate height (Minimum 30 meters) to control particulate emission within 50mg/Nm^3.
v. Appropriate Air Pollution Control (APC) system shall be provided for fugitive dust from all vulnerable sources, so as to comply prescribed standards. All necessary air pollution control devises (quenching, Venturi scrubber, mist eliminator) should be provided for compliance of emission standards.
vi. Masking agents should be used for odour control.

III. Water quality monitoring and preservation:

i. The project proponent shall install effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
ii. Waste water generated from the facility shall be treated in the ETP and treated waste water shall be reused in the APCD connected to the incinerator. The water quality of treated effluent shall meet the norms prescribed by State Pollution Control Board. Zero discharge should be maintained.
iii. Process effluent/any waste water should not be allowed to mix with storm water.
iv. Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
v. Sewage Treatment Plant shall be provided to treat the wastewater generated from the project. Treated water shall be reused within the project.
vi. A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.
vii. The leachate from the facility shall be collected and treated to meet the prescribed standards before disposal.
viii. Magnetic flow meters shall be provided at the inlet and outlet of the ETP & all ground water abstraction points and records for the same shall be maintained regularly.
ix. Rain water runoff from hazardous waste storage area shall be collected and treated in the effluent treatment plant.

IV. Noise monitoring and prevention:

i. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.

V. Energy Conservation measures:

i. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
ii. Provide LED lights in their offices and residential areas

VI. Waste management:

i. Incinerated ash shall be disposed at approved TSDF and MoU made in this regard shall be submitted to the Ministry prior to the commencement.
ii. The solid wastes shall be segregated as per the norms of the Solid Waste Management Rules, 2016.
iii. A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
iv. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016
v. No landfill site is allowed within the CBWTF site
vi. The Project proponent shall not store the Hazardous Wastes more than the quantity that has been permitted by the CPCB/SPCB.

VII. Green Belt:

i. Green belt shall be developed in area as provided in project details, with native tree Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.

VIII. Public hearing and Human health issues:

i. Feeding of materials/Bio-medical waste should be mechanized and automatic no manual feeding is permitted.
ii. Proper parking facility should be provided for employees & transport used for collection & disposal of waste materials.
iii. Necessary provision shall be made for fire-fighting facilities within the complex.
iv. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
v. Emergency plan shall be drawn in consultation with SPCB/CPCB and implemented in order to minimize the hazards to human health or environment from fires, explosion or any unplanned sudden or gradual release of hazardous waste or hazardous waste constituents to air, soil or surface water.
vi. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
vii. Occupational health surveillance of the workers shall be done on a regular basis.

IX. Corporate Environment Responsibility:

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.
iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous:

i. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular languagewithin seven days indicating that the project has been accorded environment clearance and the details of MoEFCC/SEIAA website where it is displayed
ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
vi. The criteria pollutant levels namely; $PM_{2.5}$, PM_{10}, SO_2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
x. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
xi. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
xii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
xiii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
xiv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
xv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts/NGT and any other Court of Law relating to the subject matter.
xvi. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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ANNEXURE-4

Standard EC Conditions for Project/Activity 7(e): Port, Harbor, Break water, Dredging

I. Statutory compliance:

i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.
ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.No dredging is allowed in protected habitat areas without prior permission from NBWL.
iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (incase of the presence of schedule-I species in the study area).
iv. Construction activity shall be carried out strictly according to the provisions of CRZ Notification, 2011 and the State Coastal Zone Management Plan as drawn up by the State Government. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.
v. All the recommendations and conditions specified by State Coastal Zone Management Authority for the project shall be complied with.
vi. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
vii. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
viii. All excavation related dewatering shall be as duly authorized by the CGWA. A NOC from the CGWA shall be obtained for all dewatering and ground water abstraction
ix. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
x. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Coast Guard, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.

II. Air quality monitoring and preservation:

i. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM_{10} and $PM_{2.5}$ in reference to PM emission, and SO_2 and NOx in reference to SO_2 and NOx emissions) within and outside the project area at least at four locations (one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions.
ii. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed emission standards.
iii. Shrouding shall be carried out in the work site enclosing the dock/proposed facility area. This will act as dust curtain as well achieving zero dust discharge from the site. These curtain or shroud will be immensely effective in restricting disturbance from wind in affecting the dry dock operations, preventing waste dispersion, improving working conditions through provision of shade for the workers.
iv. Dust collectors shall be deployed in all areas where blasting (surface cleaning) and painting operations are to be carried out, supplemented by stacks for effective dispersion.
v. The Vessels shall comply the emission norms prescribed from time to time.
vi. Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
vii. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

III. Water quality monitoring and preservation:

i. The Project proponent shall ensure that no creeks or rivers are blocked due to any activities at the project site and free flow of water is maintained.
ii. Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality. Silt curtains shall be used to contain the spreading of suspended sediment during dredging within the dredging area.
iii. No ships docking at the proposed project site will discharge its on-board waste water untreated in to the estuary/ channel. All such wastewater load will be diverted to the proposed Effluent Treatment Plant of the project site.
iv. Measures should be taken to contain, control and recover the accidental spills of fuel and cargo handle.
v. The project proponents will draw up and implement a plan for the management of temperature differences between intake waters and discharge waters.
vi. Spillage of fuel / engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.
vii. Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
viii. Sewage Treatment Plant shall be provided to treat the wastewater generated from the project. Treated water shall be reused for horticulture, flushing, backwash, HVAC purposes and dust suppression.
ix. A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.
x. No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.
xi. All the erosion control measures shall be taken at water front facilities. Earth protection work shall be carried out to avoid erosion of soil from the shoreline/boundary line from the land area into the marine water body.

IV. Noise monitoring and prevention:

i. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

ii. Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipments.
iii. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.
iv. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.

V. Energy Conservation measures:

i. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
ii. Provide LED lights in their offices and residential areas.

VI. Waste management:

i. Dredged material shall be disposed safely in the designated areas.
ii. Shoreline should not be disturbed due to dumping. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring report.
iii. Necessary arrangements for the treatment of the effluents and solid wastes must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986.
iv. The solid wastes shall be managed and disposed as per the norms of the Solid Waste Management Rules, 2016.
v. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.
vi. A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
vii. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.
viii. Oil spill contingency plan shall be prepared and part of DMP to tackle emergencies. The equipment and recovery of oil from a spill would be assessed. Guidelines given in MARPOL and Shipping Acts for oil spill management would be followed. Mechanism for integration of terminals oil contingency plan with the overall area contingency plan under the co-ordination of Coast should be covered

VII. Green Belt:

i. Green belt shall be developed in area as provided in project details with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.
ii. Top soil shall be separately stored and used in the development of green belt.

VIII. Marine Ecology:

i. Dredging shall not be carried out during the fish breeding and spawning seasons.
ii. Dredging, etc shall be carried out in the confined manner to reduce the impacts on marine environment.
iii. The dredging schedule shall be so planned that the turbidity developed is dispersed soon enough to prevent any stress on the fish population.
iv. While carrying out dredging, an independent monitoring shall be carried out through a Government Agency/Institute to assess the impact and necessary measures shall be taken on priority basis if any adverse impact is observed.
v. A detailed marine biodiversity management plan shall be prepared through the NIO or any other institute of repute on marine, brackish water and fresh water ecology and biodiversity and submitted to and implemented to the satisfaction of the State Biodiversity Board and the CRZ authority. The report shall be based on a study of the impact of the project activities on the intertidal biotopes, corals and coral communities, molluscs, sea grasses, sea weeds, sub-tidal habitats, fishes, other marine and aquatic micro, macro and mega flora and fauna including benthos, plankton, turtles, birds etc. as also the productivity. The data collection and impact assessment shall be as per standards survey methods and include underwater photography.
vi. Marine ecology shall be monitored regularly also in terms of sea weeds, sea grasses, mudflats, sand dunes, fisheries, echinoderms, shrimps, turtles, corals, coastal vegetation, mangroves and other marine biodiversity components including all micro, macro and mega floral and faunal components of marine biodiversity.
vii. The project proponent shall ensure that water traffic does not impact the aquatic wildlife sanctuaries that fall along the stretch of the river.

IX. Public hearing and Human health issues:

i. The work space shall be maintained as per international standards for occupational health and safety with provision of fresh air respirators, blowers, and fans to prevent any accumulation and inhalation of undesirable levels of pollutants including VOCs.
ii. Workers shall be strictly enforced to wear personal protective equipments like dust mask, ear muffs or ear plugs, whenever and wherever necessary/ required. Special visco-elastic gloves will be used by labour exposed to hazards from vibration.
iii. In case of repair of any old vessels, excessive care shall be taken while handling Asbestos & Freon gas. Besides, fully enclosed covering should be provided for the temporary storage of asbestos materials at site before disposal to CTSDF.
iv. Safety training shall be given to all workers specific to their work area and every worker and employee will be engaged in fire hazard awareness training and mock drills which will be conducted regularly. All standard safety and occupational hazard measures shall be implemented and monitored by the concerned officials to prevent the occurrence of untoward incidents/ accidents.
v. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
vi. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
vii. Occupational health surveillance of the workers shall be done on a regular basis.

X. Corporate Environment Responsibility:

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

XI. Miscellaneous:

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular languagewithin seven days and in addition this shall also be displayed in the project proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vi. The criteria pollutant levels namely; $PM_{2.5}$, PM_{10}, SO_2, NOx (ambient levels) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

x. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

xi. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xiii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xvi. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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ANNEXURE-5

Standard EC Conditions for Project/Activity 7(g): Aerial ropeways

I. Statutory compliance:

i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.

ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of schedule-I species in the study area)

iv. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.

v. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.

vi. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, the Forest Conservation Act, 1980 and the Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.

II. Air quality monitoring and preservation:

i. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM_{10} and $PM_{2.5}$ in reference to PM emission) covering upwind and downwind directions.

ii. Appropriate Air Pollution Control (APC) system (both during the construction and operation) shall be provided for all the dust generating points *inter alia* including loading, unloading, transfer points, fugitive dust from all vulnerable sources, so as to comply prescribed standards.

iii. Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.

iv. Adequate parking shall be constructed at upper terminal and lower terminal. PP shall ensure smooth traffic management.

III. Water quality monitoring and preservation:

i. Storm water from the project area shall be passed through settling chamber.

ii. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.

iii. Total fresh water use shall not exceed the proposed requirement as provided in the project details.

iv. Prior permission from competent authority shall be obtained for use of fresh water.

v. No wastewater shall be discharged in open. Appropriate Water Pollution Control system shall be provided for treatment of waste water.

vi. A certificate from the competent authority, in case of discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.

IV. Noise monitoring and prevention:

i. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

ii. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time..

V. Energy Conservation measures:

i. Energy conservation measures like installation of LED/CFLs/TFLs for lighting should be integral part of the project design and should be in place before project commissioning.

ii. Solar energy shall be used in the project i.e. at upper terminal and lower terminal to reduce the carbon footprint.

VII. Waste management

i. The solid wastes shall be segregated, managed and disposed as per the norms of the Solid Waste Management Rules, 2016.

ii. The waste oil, grease and other hazardous waste shall be disposed of as per the Hazardous & Other Wastes (Management and Transboundary Movement) Rules, 2016.

iii. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.

VIII. Public hearing and Human health/safety issues:

i. Comply with the safety procedures, norms and guidelines (as applicable) as outlined in IS 5228, IS 5229 and IS 5230, code of practice for construction of aerial ropeways, Bureau of Indian Standards.

ii. Maintaining hoists and lifts, lifting machines, chains, ropes, and other lifting tackles in good condition.

iii. Ensuring that walking surfaces or boards at height are of sound construction and are provided with safety rails or belts.

iv. The project should conform to the norms prescribed by the Director General Mine safety. Necessary clearances in this regard shall be obtained.

v. Adequate infrastructure, including power, shall be provided for emergency situations and disaster management.

vi. Adequate first aid facility shall be provided during construction and operation phase of the project.

vii. Regular safety inspection shall be carried out of the ropeway project and a copy of safety inspection report should be submitted to the Regional Office.

viii. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

IX Corporate Environment Responsibility:

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of

reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous:

i. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEFCC/SEIAA website where it is displayed.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vi. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xiv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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ANNEXURE-6

Standard EC Conditions for Project/Activity 7(h): Common Effluent Treatment plants (CETPs)

I. Statutory compliance:

i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.
ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of schedule-I species in the study area)
iv. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
v. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
vi. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
vii. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, etc. shall be obtained, as applicable by project proponents from the respective competent authorities.

II. Air quality monitoring and preservation:

i. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Diesel generating sets shall be installed, in the downwind directions.
ii. Appropriate Air Pollution Control (APC) system shall be provided for fugitive dust from all vulnerable sources, so as to comply prescribed standards.

III. Water quality monitoring and preservation:

i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
ii. Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
iii. There shall be flow meters at inlet and outlet of CETP to monitor the flow. Suitable meters shall be provided to measure the quantity of effluent received, quantity of effluent recycled/reused and discharged.
iv. The units and the CETP will maintain daily log book of the quantity and quality of discharge from the units, quantity of inflow into the CETP, details of the treatment at each stage of the CETP including the raw materials used, quantity of the treated water proposed to be recycled, reused within the Industrial park/units, quantity of the treated effluent discharged. All the above information shall be provided on- line of the web site exclusively prepared for the purpose by the CETP owner. The website shall be accessible by the public. The financial and energy details of the CETP will also be provided along with details of the workers of the CETP.
v. The CETP operator will maintain an annual register of member units which will contain the details of products with installed capacities and quality and quantity of effluents accepted for discharge. This will form a part of the initial and renewal applications for consent to operate to be made before the State Pollution Control Board.
vi. No changes in installed capacity, quality or quantity of effluents as agreed upon in the initial MOU between the operator and the member units, addition of any new member units shall be carried without prior approval of the ministry
vii. The Unit shall inform the State Pollution Control Board at least a week prior to undertaking maintenance activities in the recycle system and store/dispose treated effluents under their advice in the matter.
viii. The unit shall also immediately inform the Pollution Control Board of any breakdown in the recycling system, store the effluents in the interim period and dispose effluents only as advised by the Pollution Control Board.
ix. The MoU between CETP and member units shall indicate the maximum quantity of effluent to be sent to the CETP along with the quality.
x. The unit shall maintain a robust system of conveyance for primary treated effluents from the member units and constantly monitor the influent quality to the CETP. The Management of the CETP and the individual member shall be jointly and severally responsible for conveyance and pre-treatment of effluents. Only those units will be authorized to send their effluents to the CETP which have a valid consent of the Pollution Control Board and which meet the primary treated standards as prescribed. The CETP operator shall with the consent of the State Pollution Control Board retain the powers to delink the defaulter unit from entering the conveyance system.
xi. The effluent from member units shall be transported through pipeline. In case the effluent is transported thorough road, it shall be transported through CETP tankers only duly maintaining proper manifest system. The vehicles shall be fitted with proper GPS system.
xii. Before accepting any effluent from member units, the same shall be as permitted by the SPCB in the consent order. No effluent from any unit shall be accepted without consent from SPCB under the Water Act, 1974 as amended.
xiii. Treated water shall be disposed on land for irrigation. An irrigation management plan shall be drawn up in consultation with and to the satisfaction of the State Pollution Control Board.
xiv. The Project proponents will build operate and maintain the collection and conveyance system to transport effluents from the industrial units in consultation with and to the satisfaction of the State Pollution Control Board and ensure that the industrial units meet the primary effluent standards prescribed by the State Pollution Control Board.
xv. The State Pollution Control Board will also evaluate the treatment efficiency of the Effluent Treatment Plant (ETP) and its capability of meeting the prescribed standards. The final scheme of treatment would be such as is approved by the Pollution Control Board in the Consent to Establish.
xvi. The project proponents will create an institutional arrangement for the involvement of individual members in the management of the CETP.

IV. Noise monitoring and prevention:

i. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
ii. Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipments.

iii. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.

V. Waste management:

i. ETP sludge generated from CETP facility shall be handled and disposed to nearby authorized TSDF site as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

ii. Non Hazardous solid wastes and sludge arising out of the operation of the CETP shall be adequately disposed as per the Consent to be availed from the State Pollution Control Board. Non Hazardous solid wastes and sludge shall not be mixed with Hazardous wastes.

iii. The CETP shall have adequate power back up facility, to meet the energy requirement in case of power failure from the grid.

iv. The site for aerobic composting shall be selected and developed in consultation with and to the satisfaction of the State Pollution Control Board. Odour and insect nuisance shall be adequately controlled.

v. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.

vi. The solid wastes shall be segregated, managed and disposed as per the norms of the Solid Waste Management Rules, 2016.

VI. Energy Conservation measures:

i. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;

ii. Provide LED lights in their offices and residential areas

VII. Green Belt:

i. Green belt shall be developed in area as provided in project details, with native tree Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.

VIII. Public hearing and Human health issues:

i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

ii. Adequate infrastructure, including power, shall be provided for emergency situations and disaster management.

iii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

iv. Occupational health surveillance of the workers shall be done on a regular basis.

IX. Corporate Environment Responsibility:

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous:

i. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEFCC/SEIAA website where it is displayed.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vi. The criteria pollutant levels or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of operation by the project.

viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

x. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

xi. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xiii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xvi. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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ANNEXURE-7

Standard EC Conditions for Project/Activity 7(i): Common Municipal Solid Waste Management Facility (CMSWMF)

I. Statutory compliance:

i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.
ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of schedule-I species in the study area)
iv. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
v. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
vi. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
vii. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.

II. Air quality monitoring and preservation:

i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 and connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories. (for projects involving incineration).
ii. As proposed, air pollution control device viz. gas quencher; treatment with mixture of hydrated lime and activated powder for adsorption of partial acidity and VOCs (if any); bagfilter/ESP for removal of particulate matter; venturi scrubber followed by packed bed scrubber with caustic circulation to neutralize the acidic vapours in flue gas; and demister column for arresting water carry over will be provided to the incinerator. Online pollutant monitoring shall be provided as per CPCB guidelines for monitoring particulate matter, SO_2, NOx and CO from the incinerator stack. The periodical monitoring of Dioxins and Furans in the Stack emissions shall be carried out.
iii. Analysis of Dioxins and Furans shall be done through CSIR-National Institute for Interdisciplinary Science and Technology (NIIST), Thiruvananthapuram or equivalent NABL Accredited laboratory.
iv. Incinerator shall be designed as per CPCB guidelines. Energy shall be recovered from incinerator.
v. Gas generated in the Land fill should be properly collected, monitored and flared.
vi. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM_{10} and $PM_{2.5}$ in reference to PM emission, and SO_2 and NOx in reference to SO_2 and NOx emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions.

III. Water quality monitoring and preservation:

i. The project proponent shall install continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 and connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
ii. Sufficient number of Piezometer wells shall be installed in and around the project site to monitor the ground water quality in consultation with the State Pollution Control Board / CPCB. Trend analysis of ground water quality shall be carried out each season and information shall be submitted to the SPCB and the Regional Office of MoEF&CC.
iii. The depth of the land fill site shall be decided based on the ground water table at the site.
iv. Rain water runoff from the landfill area and other hazardous waste management area shall be collected and treated in the effluent treatment plant.
v. Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
vi. The Company shall ensure proper handling of all spillages by introducing spill control procedures for various chemicals.
vii. All leachates arising from premises should be collected and treated in the ETP followed by RO. RO rejects shall be evaporated in MEE. Toxicity Characteristic Leaching Procedure (TCLP) test to be performed on leachates.
viii. Scrubber water, leachate water or wheel wash effluent shall be treated in the effluent treatment plant followed by RO to achieve zero liquid discharge.
ix. Sewage Treatment Plant shall be provided to treat the wastewater generated from the project. Treated water shall be reused within the project.
x. A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.

IV. Waste management:

i. No non-hazardous wastes, as defined under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, shall be handled in the premises.
ii. The solid wastes shall be segregated, managed and disposed as per the norms of the Solid Waste Management Rules, 2016.
iii. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.
iv. A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.

V. Transportation:

i. Project should ensure that the site is properly cordoned off from general movement and no unauthorized person or goods permitted to enter the premises. Necessary security provision should be made as a condition in the Authorization under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 to prevent unwanted access.
ii. Traffic congestion near the entry and exit points from the roads adjoining the project site shall be avoided. Parking should be fully internalized and no public space should be utilized.
iii. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 02 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be

based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 02 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

VI. Green belt:

i. Green belt shall be developed in an area as provided in project details, with native tree species in accordance with Forest Department. The greenbelt shall inter alia cover the entire periphery of the project site.

ii. Top soil shall be separately stored and used in the development of green belt.

VII. Public hearing and Human health/safety issues:

i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

ii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

iii. Occupational health surveillance of the workers shall be done on a regular basis.

VIII. Corporate Environment Responsibility:

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

IX. Miscellaneous:

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently. (for projects involving incineration)

ii. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEFCC/SEIAA website where it is displayed (For projects involving only Landfill without incineration)

iii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iv. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vii. The criteria pollutant levels namely; $PM_{2.5}$, PM_{10}, SO_2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain (in case of incineration involved).

viii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

ix. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

x. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

xi. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

xii. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xiii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xiv. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xvi. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xvii. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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ANNEXURE-8

Standard EC Conditions for Project/Activity 8(a/b): Building and Construction projects / Townships and Area Development projects

I. Statutory compliance:

i. The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.
ii. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of fire fighting equipment etc as per National Building Code including protection measures from lightening etc.
iii. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.
iv. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
v. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
vi. The project proponent shall obtain the necessary permission for drawl of ground water / surface water required for the project from the competent authority.
vii. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
viii. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable, by project proponents from the respective competent authorities.
ix. The provisions of the Solid Waste Management Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste Management Rules, 2016, shall be followed.
x. The project proponent shall follow the ECBC/ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly.

II. Air quality monitoring and preservation:

i. Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.
ii. A management plan shall be drawn up and implemented to contain the current exceedance in ambient air quality at the site.
iii. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM_{10} and $PM_{2.5}$) covering upwind and downwind directions during the construction period.
iv. Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
v. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3 meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.
vi. Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution.
vii. Wet jet shall be provided for grinding and stone cutting.
viii. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.
ix. All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Management Rules 2016.
x. The diesel generator sets to be used during construction phase shall be low sulphur diesel type and shall conform to Environmental (Protection) prescribed for air and noise emission standards.
xi. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.
xii. For indoor air quality the ventilation provisions as per National Building Code of India.

III. Water quality monitoring and preservation:

i. The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water.
ii. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.
iii. Total fresh water use shall not exceed the proposed requirement as provided in the project details.
iv. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.
v. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.
vi. At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.
vii. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.
viii. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc) for water conservation shall be incorporated in the building plan.
ix. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
x. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
xi. The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain water harvesting recharge pits/storage tanks shall be provided for ground water recharging as per the CGWB norms.

xii. A rain water harvesting plan needs to be designed where the recharge bores of minimum one recharge bore per 5,000 square meters of built up area and storage capacity of minimum one day of total fresh water requirement shall be provided. In areas where ground water recharge is not feasible, the rain water should be harvested and stored for reuse. The ground water shall not be withdrawn without approval from the Competent Authority.

xiii. All recharge should be limited to shallow aquifer.

xiv. No ground water shall be used during construction phase of the project.

xv. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering.

xvi. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.

xvii. Sewage shall be treated in the STP with tertiary treatment. The treated effluent from STP shall be recycled/re-used for flushing, AC make up water and gardening. As proposed, no treated water shall be disposed in to municipal drain.

xviii. No sewage or untreated effluent water would be discharged through storm water drains.

xix. Onsite sewage treatment of capacity of treating 100% waste water to be installed. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the Ministry before the project is commissioned for operation. Treated waste water shall be reused on site for landscape, flushing, cooling tower, and other end-uses. Excess treated water shall be discharged as per statutory norms notified by Ministry of Environment, Forest and Climate Change. Natural treatment systems shall be promoted.

xx. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.

xxi. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.

IV. Noise monitoring and prevention:

i. Ambient noise levels shall conform to residential area/commercial area/industrial area/silence zone both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.

ii. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

iii. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.

V. Energy Conservation measures:

i. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC.

ii. Outdoor and common area lighting shall be LED.

iii. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.

iv. Energy conservation measures like installation of CFLs/ LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning.

v. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher.

vi. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.

VI. Waste Management:

i. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project shall be obtained.

ii. Disposal of muck during construction phase shall not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.

iii. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials.

iv. Organic waste compost/ Vermiculture pit/ Organic Waste Converter within the premises with a minimum capacity of 0.3 kg /person/day must be installed.

v. All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.

vi. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.

vii. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, Compressed earth blocks, and other environment friendly materials.

viii. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016. Ready mixed concrete must be used in building construction.

ix. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.

x. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.

VII. Green Cover:

i. No tree can be felled/transplant unless exigencies demand. Where absolutely necessary, tree felling shall be with prior permission from the concerned regulatory authority. Old trees should be retained based on girth and age regulations as may be prescribed by the Forest Department. Plantations to be ensured species (cut) to species (planted).

ii. A minimum of 1 tree for every 80 sqm of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping.

iii. Where the trees need to be cut with prior permission from the concerned local Authority, compensatory plantation in the ratio of 1:10 (i.e. planting of 10 trees for every 1 tree that is cut) shall be done and maintained. Plantations to be ensured species (cut) to species (planted). Area for green belt development shall be provided as per the details provided in the project document.

iv. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

VIII. Transport

i. A comprehensive mobility plan, as per MoUD best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.
   a. Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
   b. Traffic calming measures.
   c. Proper design of entry and exit points.
   d. Parking norms as per local regulation.

ii. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.

iii. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

IX. Human health issues:

i. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.

ii. For indoor air quality the ventilation provisions as per National Building Code of India.

iii. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

iv. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

v. Occupational health surveillance of the workers shall be done on a regular basis.

vi. A First Aid Room shall be provided in the project both during construction and operations of the project.

X. Corporate Environment Responsibility:

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

XI. Miscellaneous:

i. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEFCC/SEIAA website where it is displayed.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vi. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change (MoEF&CC).

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xiv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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