

## MINUTES OF THE 40<sup>th</sup> MEETING OF THE EXPERT APPRAISAL COMMITTEE (INFRASTRUCTURE-2) HELD ON 23<sup>rd</sup> April, 2019

**Venue:** Conference Hall (Teesta), Vayu Wing, First Floor, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 3

**Tuesday, 23<sup>rd</sup> April, 2019**

**Time: 10:00 AM**

### 40.1 Opening Remarks of the Chairman

### 40.2 Confirmation of the Minutes of the 39<sup>th</sup> Meeting of the EAC (Infra-2) held during 26-28 March, 2019 at New Delhi.

The minutes of the 39<sup>th</sup> Meeting of the EAC (Infra-2) held during 26-28 March, 2019, was confirmed with following corrections:

Agenda item No.	Minuting	Correction/To be read as
Agenda item no. 39.5.4 of 39 <sup>th</sup> Meeting held 26-28 March, 2019 (IA/DL/MIS/78285/2018; F.No.21-117/2018-IA-III)	<i>Project brief point (ii)</i>  The total FAR Area of the project will be 49,222.28 sqm. Total FAR proposed for project will be 21,920.516 sqm.	<i>Project brief point (ii)</i>  .....Total FAR proposed for project will be 21,920.516 sqm.....
Agenda item no. 39.5.5 of 39 <sup>th</sup> Meeting held 26-28 March, 2019 (IA/DL/MIS/91906/2019; F.No.21-7/2019-IA-III)	<i>Project brief point (vii)</i>  ...Total 2 nos. of RWH pits will be constructed to recharge the ground water....	<i>Project brief point (vii)</i>  ...Total 6 nos. of RWH pits will be constructed to recharge the ground water....
Agenda item no. 39.5.7 of 39 <sup>th</sup> Meeting held 26-28 March, 2019 (IA/DL/MIS/91893/2019; F.No.21-8/2019-IA-III)	<i>Project brief point (iii)</i>  ...No. of beds after expansion will be 120....	<i>Project brief point (iii)</i>  ...No. of beds after expansion will be 270.....
Agenda item no. 39.5.10 of 39 <sup>th</sup> Meeting held 26-28 March, 2019 (IA/DL/MIS/96429/2019; F.No.21-13/2019-IA-III)	<i>Project brief point (viii)</i>  Total 2 Nos. of RWH pits shall be installed to recharge the ground water.	<i>Project brief point (viii)</i>  Total 11 Nos. of RWH pits shall be installed to recharge the ground water.
Agenda item no. 39.5.11 of 39 <sup>th</sup> Meeting held 26-28 March, 2019 (IA/DL/MIS/97618/2019; F.No.21-15/2019-IA-III)	<i>Project brief point (ii)</i>  .... The Non-FAR will be 14,126.5 sqm, total basement area will be 51,715.115 sqm & the built-up area of the project will be 1,26,758.3 sqm.....	<i>Project brief point (ii)</i>  .... The Non-FAR will be 14,126.5 sqm, total basement area will be 52,675.005 sqm & the built-up area of the project will be 1,26,758.3 sqm.....

### 40.3 Consideration of Proposals

#### Agenda item No. 40.3.1.

**Development of Greenfield International Airport at Mopa, Goa by M/s GMR Goa International Airport Limited - Reconsideration for Environmental Clearance**

**(IA/GA/MIS/27928/2015; F.No.10-29/2011-IA-III)**

#### 40.3.1.1.

#### Brief about the proposal:

1. Matter relates to the Environmental Clearance (EC) accorded to the project 'Development of Greenfield International Airport at Mopa', Goa in favour of M/s Directorate of Civil Aviation vide letter F.No. 10-29/2011-IA.III dated 28<sup>th</sup> October, 2015. The Amendment to the Environmental Clearance was granted to the project vide letter F.No. 10-29/2011-IA.III dated 22<sup>nd</sup> February, 2018, and the EC was transferred in the name of M/s GMR Goa International Airport Limited (GGIL).

2. The Hon'ble Supreme Court vide its judgment dated 29<sup>th</sup> March, 2019, in Civil Appeal No. 12251 of 2018 in the matter of Hanuman Laxman Aroskar Vs Union of India & Ors. and Civil Appeal No. 1053 of 2019 in the matter of Federation of Rainbow Warriors Vs Union of India & Ors. has inter-alia directed that

- (i) The EAC shall revisit the recommendations made by it for the grant of an EC, including the conditions which it has formulated, having regard to the specific concerns which have been highlighted in this judgment;
- (ii) The EAC shall carry out the exercise under (i) above within a period of one month of the receipt of a certified copy of this order;
- (iii) Until the EAC carries out the fresh exercise as directed above, the EC granted by the MoEFCC on 28 October 2015 shall remain suspended;
- (iv) Upon reconsidering the matter in terms of the present directions, the EAC, if it allows the construction to proceed will impose such additional conditions which in its expert view will adequately protect the concerns about the terrestrial eco-systems noticed in this judgment. The EAC would be at liberty to lay down appropriate conditions concerning air, water, noise, land, biological and socio economic environment;
- (v) The EAC shall have due regard to the assurance furnished by the concessionaire to this Court that it is willing to adopt and implement necessary safeguards bearing in mind international best practices governing greenfield airports;

3. In compliance to the judgment of Hon'ble Supreme Court, the proposal was placed before the Expert Appraisal Committee (Infra-2) in its 40<sup>th</sup> meeting held on 23<sup>rd</sup> April, 2019, for appraisal/deliberation in the light of observations of Hon'ble Supreme Court.

4. During deliberations the EAC was informed that, M/s Directorate of Civil Aviation, Government of Goa, submitted application to the Ministry on 8<sup>th</sup> March, 2011, for grant of Terms of Reference (ToR). The ToR was finalized by the Expert Appraisal Committee in its meeting held during 11<sup>th</sup>-12<sup>th</sup> May, 2011. ToR letter was issued to the project proponent on 1<sup>st</sup> June, 2011, for the preparation of the Environmental Impact Assessment Report. The ToR issued was valid for a period of two years until 31<sup>st</sup> May, 2013. On 22<sup>nd</sup> November, 2012, the Government of Goa revised the project boundary by decreasing the project area from 4,500 acres to 2,271 acres and requested Ministry for amendment in ToR. The proposal was considered by the EAC in its meetings held during 28-29 January, 2013, and recommended an amendment to the ToR as requested by the state government and also granted an extension to the validity of the ToR until 31<sup>st</sup> May, 2014. The amendment in ToR was issued on 19<sup>th</sup> June, 2013. On 20<sup>th</sup> October, 2014, the Directorate of Civil Aviation, Government of Goa submitted a draft EIA report to the Goa State Pollution Control Board, requesting it to initiate steps to conduct a public hearing. Public hearing was conducted at the project site on 1<sup>st</sup> February, 2015. The Government of Goa again requested Ministry for further extension of validity of ToR. The proposal was considered by the EAC in its meetings held during 9<sup>th</sup>-11<sup>th</sup> March, 2015, and recommended an extension of the validity of the ToR for another year ending on 31<sup>st</sup> May, 2015. On 29<sup>th</sup> May, 2015, the MoEFCC communicated its approval for extending the validity of the ToR until 31<sup>st</sup> May, 2015. Meanwhile, the State of Goa submitted final EIA report to the MoEFCC on 20<sup>th</sup> May, 2015, seeking the grant of EC for the project.

The proposal was considered by the EAC, in its meetings 149<sup>th</sup> meeting held during 24<sup>th</sup>-26<sup>th</sup> June, 2015, 151<sup>st</sup> meeting held during 7<sup>th</sup>-9<sup>th</sup> September, 2015 and 152<sup>nd</sup> meeting held on 20<sup>th</sup> October, 2015. The EAC in its meeting held on 20<sup>th</sup> October, 2015, had recommended the project for grant of Environmental Clearance. As per the recommendation of EAC, the Ministry of Environment, Forest and Climate Change accorded EC for the above-mentioned

project on 28<sup>th</sup> October, 2015, under the provisions of the EIA Notification, 2006 and amendments thereto and circulars issued thereon and subject to the compliance of the certain specific and general conditions as stipulated in the EC letter. Further, amendment to the EC was granted to the project vide letter F.No. 10-29/2011-IA.III dated 22<sup>nd</sup> February, 2018, and the EC was transferred in the name of M/s GMR Goa International Airport Limited (GGIL).

The grant of the EC was challenged before the Western Zonal Bench of the Hon'ble National Green Tribunal (NGT) by the Federation of Rainbow Warriors. Hanuman Laxman Aroskar also filed an appeal before the Western Zonal Bench of the NGT. On 7<sup>th</sup> November, 2017, the NGT issued an ad-interim order restraining the cutting or felling of trees in the area designated as the site of the proposed airport. On 22<sup>nd</sup> November, 2017, the order of restraint was modified on the statement of the Advocate General of Goa that the state shall not cut or fell any trees, nor allows it to take place without valid permission from the lawful authority for a fortnight thereafter in order to enable the appellants to pursue their remedies. On 6<sup>th</sup> February, 2018, the Deputy Conservator of Forests granted permission for felling 21,703 trees at the airport site. The appellate authority under the Goa, Daman and Diu Preservation of Trees Act 1984 dismissed the appeal on 7<sup>th</sup> March, 2018.

On 8<sup>th</sup> March, 2018, the High Court of Judicature at Bombay at its seat at Goa set aside the order of the Deputy Conservator of Forests and remanded the matter to be heard by the Principal Chief Conservator of Forests. On 2<sup>nd</sup> April 2018, the Principal Chief Conservator of Forests stipulated several conditions for the cutting and the felling of trees at the site of the airport including: (i) enumeration of trees; and (ii) the plantation of ten times the number of trees felled. Upon being moved in a Public Interest Litigation, the High Court by its order dated 25<sup>th</sup> April, 2018, allowed the exercise of enumeration to be carried out. As a result, 54,676 trees were enumerated, including the 1,548 trees which had been felled earlier in terms of the order dated 6<sup>th</sup> February, 2018, of the Deputy Conservator of Forests. On 13<sup>th</sup> January, 2018, the High Court issued final directions in the PIL directing the State of Goa to approach the NGT seeking permission for felling and cutting trees. The state was directed to carry out the cutting and felling of trees only after prior permission was granted by the NGT.

A Miscellaneous Application was filed by the State of Goa before the NGT on 2<sup>nd</sup> July, 2018, seeking permission for the felling of trees. By its judgment dated 21<sup>st</sup> August, 2018, the NGT disposed of both the appeals and the Miscellaneous Application filed by the State of Goa, upholding the EC and imposing additional conditions to safeguard the environment.

#### **40.3.1.2.**

During the EAC deliberation held on 23<sup>rd</sup> April, 2019, the project proponent submitted additional information and plans related to various concerns of the judgment of the Hon'ble Supreme Court dated 29<sup>th</sup> March, 2019. The additional information included updated Form-1 especially environmental sensitivity information that had been missed out inadvertently in the earlier Form-1. The project proponent and the accredited Consultant M/s Engineers India Limited gave a detailed presentation on the observations raised by the Hon'ble Supreme Court and comments/response in respect of each

#### **Extracts of Supreme Court judgment:**

##### **40.3.1.2.1**

#### **D. Forests (page 42)**

#### **Supreme Court observations:**

Hon'ble Supreme Court has observed that Form-1 did not contain any disclosure of the name or identity of forests within an aerial distance of 15 kilometers. Item 2 under the heading of Environmental sensitivity requires a disclosure of "areas which are important or sensitive for ecological reasons-wet land, water sources or other water bodies, coastal zone, biospheres, mountains and forests".

### Responses to the Supreme Court observations:

The EAC examined the matter with respect the information already available in the EIA report submitted in April, 2015, and additional information now submitted by the project proponent.

EAC observed that the EIA report of April, 2015, contained information about Reserved Forests, Wet Lands and land Water bodies in the State of Goa (table 2.1 of EIA report). With regard to Maharashtra no information was given in table 2.1 while page 11 of EIA report gives the presence of forests in Maharashtra region in terms of area. Besides, a land use map showing forests, agricultural land, and water bodies is given as Annexure IX in the EIA report for both Goa and Maharashtra.

### Supplementary information provided by the Project Proponent now is as under:

- There are seven reserved forests within 15 km. of the proposed Airport in the Goa region (under Section-20) and six proposed reserved forests (under section-4) of Indian Forest Act, 1927. (Survey of India Toposheet and Forest Working Plan of North Goa)
- There are twenty-nine proposed reserve forests within 15 km. of the proposed Airport in Maharashtra region under Section-4 of Indian Forest Act, 1927 (Survey of India Toposheet & Forest Department, Sawantwadi Division)
- There are four rivers in Goa viz. Terekhol river, Kalna river, Chapora river, Moide river and one river viz. Tilari river in Maharashtra (source: Survey of India Toposheet).
- There are few patches of mangroves observed near Moide river, Terekhol river, Chapora river.
- Western Ghat Mountain range falls within the study area.
- There are two wetlands, of which one i.e. Anjuna reservoir has been identified in National Wetland Atlas of Goa.
- There are no coastal areas and declared biospheres in the vicinity of the proposed airport site.

The details of forests in Goa and in Maharashtra are as follows.

### Details of Forest Area within 15 Km Radial Distance in the State of Goa

S. No.	Taluka	Reserved Forest	Proposed Reserved Forest	Unclassed Forest	Private Forest identified by Sawant & Karapurkar committee demarcated by earlier demarcation team	Private Forest identified by V.T. Thomas committee	Remarks
1	Bicholim	Nanodem-I, Nanodem-II, Sal	Mayem, Corpal Dongor	-	Latambarcem	Latambarcem	Private forest areas identified by earlier
2	Pernem	Mopa, Vourecho, Dongor, Suricho	Ibrampur, Chandel, Casarvonem, Tamboxem	Ibrampur Cashew Plantation, Allorna	-	Pernem, Tuem, Dhargal, Casarvonem, Paliem,	Sawant & Karapurkar and V.T.

		Dongor	Darvagi Mat			Arambol	Thomas committee is under review
3	Bardez	Bella Vista	-	-	Tivim, Mapusa, City, Assagao, Marna, Siolim	Assagao, Marna, Siolim, Oxel, Camurlim	

Source of information – Deputy Conservator of Forest, Government of Goa's letter dated 12<sup>th</sup> April, 2019.

#### **Details of Forest Area within 15 km Radial distance in the State of Maharashtra**

S. No.	Taluka	Reserved Forest	Proposed Reserved Forest	Unclassed Forest	Identified Forest Area Under Collector First Report dated 1.8.1997		
					Mangrove	Private	Government
1	Sawantwadi	-	Khetraphal, Insuli, Nigude, Vetye, Majgaon, Otwane, kumbharli, Sarmale, Tamboli, Padave, Malgaon TB, Padlos, Satarde, Sateli, Nhaveli, Nirwade, Malewad	-	-	Sarmale	Malewad
2	Dodamarg	-	Kasai, Ughade, Adali, Sasoli, Talkat, Zolambe, Kadpade T Banda, Bhekurli (Khadpade T Maneri), Ambadgaon	-	-	-	Ker, Bhekurli (Khadpade T Maneri), SateliBhedsh, Parme, Sargave, Vazare, Aai
3	Vengurla	-	Pendur (MatondVengurla), Satygani (MatondVengurla), Matond	-	--	-	-

Source of information - Deputy Conservator of Forest, Sawantwadi Forest Division, Government of Maharashtra's letter dated 20<sup>th</sup> August, 2018.

#### **Review of Environmental Impact assessment:**

As per Forest Policy, 1988 of Government of India, required forest cover is 33%. Whereas, India average is 21.54%, Goa's forest cover as per India's state of forest report 2017 is 60.21%. There would be impact on forest due to felling of trees but eventually the forest cover will improve with a 1:10 compensatory afforestation program to be undertaken over a period of 5 years by the concessionaire, Goa State Biodiversity Board and Directorate of Civil Aviation. The enhanced forest cover would lead to healthy biodiversity further. Impacts on water, air, soil and noise environment will be minimal considering the felling of trees over a large area and compensatory afforestation plan as approved.

It is noted that the airport site is not fragmenting the forest area thus not restricting and affecting the movement of fauna. The Airport plateau has villages on one side and forest cover on the other side. The plateau is just an extension of forest cover with trees, which had 15 houses, some grazing activity and some agricultural activity where the animals from the nearby forest may have been straying. The proposed airport will be protected from all sides with compound wall as per DGCA guidelines and thus animals will not be able to enter the airport premises.

The proposed 10 times compensatory plantation needs to be monitored by the Government of Goa so that the target of planting 5.5 lakhs saplings is achieved in a time bound manner, their survival rate is monitored and mortality is replenished. As major chunk of 2.5 lakh of saplings is proposed to be done by the village level Biodiversity Committees, it is necessary to ensure that people are largely given native species and/or fruit bearing saplings so that they will be able to derive economic benefits from such fruit crops and also such trees will provide better biological environment to birds.

#### 40.3.1.2.2

### **E: Ecologically Sensitive Zones (page 48)**

#### **Supreme Court observations:**

- The glaring deficiency which emerges from the EIA report is its failure to notice the existence of ESZs within a buffer distance of 10 kilometres of the project site (para 85).
- On one hand, the EIA report takes note of the HLWG report but on the other hand, EIA report ignores the existence of ESZs within the study area (para 85).
- There are 16 villages in Sawantwadi Taluka of Sindhudurg district of Maharashtra. Several of these villages which have been mapped as ESZs in the draft notification fall within the 10 km buffer from the project site (para 79 and 80).
- In deducing the impact of a proposed activity on an ESZ, it is not sufficient to take recourse to a generic assessment of a proposed activity on the ecology of the study area. The EIA report must factor in those specific features which make an area ecologically sensitive (para 86).

#### **Responses to the Supreme Court observations:**

The EAC examined the matter with respect the information already available in the EIA report submitted in April, 2015, and additional information now submitted by the project proponent.

EAC noted that the EIA report only mentions about Pernem Taluka where the project is coming up is not an earmarked Ecologically Sensitive Area (ESA) as per High Level Working Group report.

Following points have been noted as the outcome of EIA study:

- A total of 86 species of birds were observed during the present survey in the 10 km radial distance from the proposed project sites. The common terrestrial species of the area include Indian Robin (*Saxicoloides fulicata*), Green Bee-eater (*Merops orientalis*), Blue Rock Pigeon (*Columba livia*) and Red Vented Bulbul (*Pycnonotus cafer*). Indian Peafowl is the only Schedule-I species found in the surrounding areas of the airport site.
- A total of 33 butterfly species belonging to 5 families were recorded during the present study. Species such as Common Jezebel, Plain Tiger, Common Indian Crow, and Common Grass Yellow were commonly seen in and around the proposed project site. Crimso Rose, Danaid Eggfly and Common Pierrot are protected under Schedule-I of Indian Wildlife Protection Act 1972. Crimson Rose is endemic species found occurring in the present study area.
- Based on field observations and the available secondary information, a total of 5 species of amphibians were recorded from the study area.
- Based on field observations and the available secondary information, a total of 12 species of reptiles were recorded from the study area.
- There are 35 numbers of fish species are recorded in the study area.

- There are 10 numbers of mammal species are recorded in the study area (as per EIA report, page No. 67).
- Further data were collected from secondary sources (Zoological Survey of India), additional 18 mammal species and 14 bird species were found in the study area which is recorded as below. Schreiber's long fingered bat which may found in forested areas is falling in Near Threatened category. Malabar Pied Hornbill is also considered a Near Threatened bird as per IUCN Red list may occur in the forested areas surrounding the project site.

**Supplementary information provided by the Project Proponent now is as under:**

- (1) Neither the project site nor the villages in area under study (as per primary data source) falls in any Eco-Sensitive Zones (ESZ) around the protected areas.
- (2) As per Dr. K. Kasturirangan report, MoEFCC published a Draft Notification (3<sup>rd</sup> October, 2018) indicating proposed Ecologically Sensitive Area (ESA) of Western Ghats. As per said draft notification dated 3<sup>rd</sup> October, 2018, there are 10 villages in the Taluka of Sawantwadi, district of Sindhudurg in Maharashtra are located in the ESA of the Western Ghats and not under any ESZ around the protected areas.
- (3) Additional mammal species found in the study area: (ZSI publications)

No.	Common Name	Species Name	IWPA, 1972/IUCN
1	Fulvus leaf-nosed bat	<i>Hipposideros fulvus</i>	LC
2	Indian Pygmy Pipistrelle	<i>Pipistrellus tenuis</i>	LC
3	Schreiber's long fingered bat	<i>Miniopterus schreibersii</i>	NT
4	Hanuman Langur	<i>Semnopithecus entellus</i>	SC-II
5	Monnet Macaque	<i>Macaca radiata</i>	SC-II
6	Smooth-coated Otter	<i>Lutrogale perspicillata</i>	SC-II
7	Jungle cat	<i>Felis chaus</i>	SC-II
8	Common palm civet	<i>Paradoxurus hermaphroditus</i>	SC-II
9	Spotted Deer	<i>Axis axis</i>	LC
10	Indian Black-napped Hare	<i>Lepus nigricollis</i>	LC/SC-IV
11	Indian crested porcupine	<i>Hystrix indica</i>	LC/SC-IV
12	Greater Bandicoot Rat	<i>Bandicota indica</i>	LC/SC-V
13	Soft-furred Metad	<i>Millardia meltada</i>	LC/SC-V
14	Indian Gerbil	<i>Tatera indica</i>	LC/SC-V
15	Western Ghats Striped Squirrel	<i>Funambulus tristriatus</i>	LC
16	Indian Muntjak	<i>Muntiacus muntjak</i>	LC/SC-III
17	Wild Boar	<i>Sus scrofa</i>	LC/SC-III
18	Indian Grey Mongoose	<i>Herpestes edwardsii</i>	LC/SC-II

- (4) Additional bird species found in the study area: (ZSI Publications)

No.	Common Name	Species Name	IWPA, 1972/IUCN
1	Spotted Redshank	<i>Tringa erythropus</i>	LC
2	Marsh Sandpiper	<i>Tringa stagnatilis</i>	LC
3	Indian Cuckoo-shrike	<i>Coracina macei</i>	LC
4	Asian Brown Flycatcher	<i>Muscicapa dauurica</i>	LC
5	Great Tit	<i>Parus major</i>	LC
6	Crimson Sunbird	<i>Aethopyga siparaja</i>	LC
7	Brahminy Starling	<i>Sturnia pagodarum</i>	LC
8	Ashy Woodshallow	<i>Artamus fuscus</i>	LC
9	Ashy-crowned sparrow lark	<i>Eremopterix griseus</i>	LC

10	Red spurfowl	<i>Galloperdix spadicea</i>	LC
11	Yellow wattled Lapwing	<i>Vanellus malabaricus</i>	LC
12	European Roller	<i>Coracias garrulus</i>	LC
13	Malabar Pied Hornbill	<i>Anthracoceros coronatus</i>	NT
14	Bluethroat	<i>Cyanecula svecica</i>	LC

It was further reported by the project proponent that People's Biodiversity Register of Pernem Taluka is being evolved and as per the information currently available with the Goa State Biodiversity Board, people have reported sighting of leopard around the project area, but the same is yet to be verified and recorded scientifically.

### **Review of Environmental Impact assessment:**

EAC noted that all the 10 ESA areas within 10 kms in the State of Maharashtra are beyond 4 kilometers from the project boundary, the nearest one being at a distance of 4.1 kms (Village Galel). As per Airport guidance manual maximum impact on the air and noise environment will be there till the aircraft gains a height of 1000 ft. Emissions from aircraft below 1,000 ft, above the ground will be there typically around 3 km from departure or, for arrivals, around 6 km from touchdown. The altitude of 1000 ft in landing and takeoff is achieved within the project site. Considering that all the ESAs are far away from the project, the impact on air and noise environment is expected to be minimal. With regard to soil environment, impact will be mostly on the airport site self. As regards water environment, as the water flow from the airport site will feed the water bodies in the State of Goa, no impact is envisaged on the ESA areas.

EAC also deliberated on the likely impact of Airport Construction and Operation on the ESA's on Flora, Fauna, and Hydrological Systems & Climatic Variations.

### **WATER ENVIRONMENT:**

- Changes in the natural flow of storm water, stunted growth, delayed flowering and fruiting.
- Fauna migration in search of water to other places.
- Change their habitat and breeding capacity.
- Due to eutrophication influence, certain toxic algae production some animals can suffer symptoms like skin irritation or health problems if drinking

### **SOIL ENVIRONMENT:**

- Soil impact may lead in to non germination of seeds & stunted growth, delayed flowering & fruiting, erosion and clearing of topsoil (loss of habitat & habitat fragmentation)
- Affects the quality of the environment or habitat in which they live
- Affects the availability and quality of the food supply
- Soil erosion may increase the turbidity which could impact aquatic fauna's respiration capacity.
- Loss of local aquatic biodiversity
- Habitat loss,
- Erosion and clearing of topsoil (loss of micro-fauna).
- Influence the abundance and health of dependent species

### **AIR ENVIRONMENT:**

Air impact may lead reduced productivity, changes in water vapor levels.

### **SURROUNDING / NOISE ENVIRONMENT.**

- Migration of birds
- Breeding capacity reduction
- Affect life cycle



- Shy mammals may move away
- Bird Aircraft strike
- Wild life hazard management

#### **Climatic Variations:**

- habitats of many species will move pole ward
- experience increase in temperature regimes, rainfall
- decrease in the moisture regimes and increase in fire incidences

The EAC noted that a total of 385 species of plants, 36 medicinal plant, 86 species of birds, 33 butterfly species, 5 species of amphibians, 18 species of reptiles, 35 fish species, 28 number of mammal species were identified in the study area based on primary and secondary source of data. The proposed project has minimal intervention and impact on the surrounding ecosystem. There are mitigation measures already prescribed in EC conditions so as to minimize the impact on Biodiversity-Flora & Fauna, Hydrological Systems. This will help enabling the process for sustainable development that benefit both environment and local livelihoods. With regards to climatic variations, the EAC felt that additional initiatives such as Green Infrastructure Development program, adoption of low emission intensive technologies, renewable energy program, and Airport Carbon Accreditation need to be adopted to reduce the impact on Green House Gas (GHG) emissions and thereby climate change.

#### **40.3.1.2.3**

#### **Natural water channels (page 54)**

##### **Supreme Court observation:**

- The Mopa plateau is at a height of 155 metres above mean sea level and water from the plateau flows down to the rivers in the State of Goa. The laterite plateau is an important source of drainage by providing natural channels for water. The impact of a Greenfield airport on the closing of natural channels which feed the water bodies has not been scientifically mapped or studied (para 89).

##### **Responses to the Supreme Court observations:**

- The EIA Report at Section 5.3.3 (pages 81-87) gives the detailed drainage pattern study comprising topography, run-offs from project area, peak daily discharge from site, impact assessment and mitigation measures
- The mitigation measures at page 86 of 127 of EIA report has made specific recommendation that any material resulting from clearing and grading should not be deposited on approach roads, streams or ditches, which may hinder the passage and/or natural water drainage.
- EAC after detailed deliberation in its 149<sup>th</sup> Meeting sought additional information that - "there is a need to superimpose the layout plan showing drainage pattern including natural drainage, construction in the area on superimposed map showing clear topography of the region".

##### **Review of Environmental Impact assessment:**

If natural water channels that feed the local water bodies are not protected then there will be water deficiency in the villages for agriculture, fishing etc. Further, there will be impact on the ground water levels in the villages. EAC while granting EC for the project had detailed

deliberation on this aspect so as to ensure that natural water channels feeding the water bodies are not blocked.

The EAC reviewed the entire gamut of natural/artificial drainage and the storm water drainage pattern. As per the supplementary information provided now, the airport site, by virtue of being located on a plateau and the laterite soil surface, would naturally facilitate the flow of storm water and other artificial drainage. The proponent has designed for appropriate drainage channels in such a manner that the water flow from project site is channelized suitably into the natural water channels feeding the water bodies down slope. All due precautions, however, need to be exercised during the construction phase so as to ensure that construction material/debris does not, in any manner, block/obstruct the natural water channels or springs.

The EAC deliberated on the current state of the project construction and noted that in the ensuing monsoon season the earth piled up at the project site due to excavation may drift to the natural water channels which may ultimately reach the water bodies in the villages. This is a matter of grave environmental concern which needs to be addressed by the project proponent immediately by development of embankment structures around the excavated earth so that piled up earth doesn't drift to the natural water channels and the run-off from the site does not pollute or contaminate the water bodies. This shall be maintained during construction/operation phase of the project.

#### **40.3.1.2.4**

#### **Public Consultation (page 62)**

##### **Supreme Court Observations:**

- Crucial objections and environmental concerns which were raised during the consultative process were reduced to a single issue by the project proponent before the EAC: the need for employment opportunities.
- The project proponent failed in its duty to inform the EAC.
- The EAC was duty bound to apply its mind to the environmental concerns raised by stakeholders.
- The Minutes of the meeting indicate that there was no fair and complete disclosure of the objections which were raised during the public hearing before the EAC.

##### **Responses to the Supreme Court observations:**

It is noted that the Annexure XXI of the EIA report has already covered the concerns expressed in the public hearing, both oral and written, and responses for the same. It is also noted that the EIA report was updated by the project proponent taking into account various concerns expressed in the public hearing.

##### **Updated compliance statement**

EAC went through the updated responses given for public hearing concerns. The concerns expressed in the public hearing are of two categories viz. Environmental Concerns and other concerns. The environmental concerns viz, rain water harvesting, STP and solid waste management plan, impact on flora and fauna, soil quality and its impact, storm water management, impact on ground water, socio cultural impact, dust pollution during construction activity, employment opportunities to the local people, compensation to the affected land owners etc. are properly addressed.

## **Summing up:**

1. The EAC observed that the earlier Form-1 did not give proper disclosure in respect of the details of forests on the land and nearby wet land as well as on the water bodies. The EAC took into account the supplementary report that has been submitted which takes into account the deficiency of disclosure and the same thing has been complied with in the supplementary report. In addition, it is also noticed that the mitigation measures in respect of the depletion of forest cover on the project land and water bodies have been taken into account. As against 54,176 trees, which have been felled on the project site based on earlier approvals given by competent authority, the project proponent is proposing to plant 5,50,000 trees (50,000 trees at the project site, 2,50,000 trees in the nearby villages supervised by the Biodiversity Board and 2,50,000 trees under the supervision of DGCA. This is 1:10 times the number of trees affected as against the standard requirement of 1:3 times number of trees to be planted. The overall supervision of this compliance within the time frame of 5 years would be vested with DGCA. DGCA, however, needs to constitute a local monitoring committee for periodic monitoring of this vital exercise.
2. The EAC noted that neither the project site nor the villages in area under study (primary data source) falls in any Eco-Sensitive Zone (ESZ). The 10 villages in Maharashtra side fall in ESA not ESZ and where the impacts of the project would be minimal. The EAC also observed that the villages in vicinity of the project in the Goa and Maharashtra region are not located in very close proximity. The nearest village is about 4.1 km from the boundary of the project. The EAC also observed that beyond the runway of 3.75 km, the flight operation generally found at an altitude of about 1000 feet and thus there would not be any adverse impact on flora and fauna in the surrounding area of the airport.
3. The EAC observed that a certificate from Chief Wildlife Warden (CWLW) of State through State Government be obtained confirming that none of the area of the project falls in the notified Eco-sensitive Zone (ESZ) in the State of Goa and no activity prohibited in the Eco-sensitive zone will be taken up by the project proponent.
4. The EAC further observed that as per the supplementary report and the proposal of the water bodies with respect to observation regarding plateau effect of the land and also laterite surface and the springs, streams and water courses in the project land have been taken into account and appropriate drainage channels have been designed to take care of the water flows into the nearest water courses/rivers, etc.
5. Appropriate storm water drainage channeling has been taken into account not only for the pre-monsoon season but also for monsoon and heavy rainfall. The drainage plan should have ratification by the concerned water resources department of Goa. It should be ensured that sustainable water flow in the various channels of watershed in the plateau is maintained. For the present, base level data on flow of water should be collected and used for future monitoring.
6. The EAC observed that in respect of the fauna, the primary data has been collected from one of the nearest village and the secondary data has been collected from ZSI. In respect of the observation of sighting leopard by villager, the authorities have indicated that they do not have any definitive information on the same and this need to be verified/authenticated.
7. It is a well-established fact of silvicultural science and practice that no plantation can replace the natural forest. The kind of biodiversity in any natural forest is almost impossible to be replaced by any kind of plantation activity which at the best can be a mix of various monocultures. We are still far away in our knowledge of replicating the creation of natural forest. Therefore, to this extent, the EAC does not agree with the assessment of project

proponent that after cutting of trees and planting of 1:10 trees, richer biodiversity the forest would be created. However, 1:10 plantation activity under expert guidance can to some extent compensate the loss of natural forest.

8. With respect to the various points raised in the public hearing, the EAC observed that the supplementary report has made available point-wise clarifications on the various concerns on the public hearing. However, Hon'ble court shortlisted 14 items of concern in the public hearing. Solution/management plan to all these need to be clearly spelt out in the EMP and implemented in letter and spirit.

**After detailed deliberations/discussion on the submissions and additional information submitted by the project proponent, the EAC recommends Environmental Clearance to the project with additional environmental safeguards/conditions, over and above the specific and general conditions already stipulated in the EC letter dated 28<sup>th</sup> October, 2015, besides additional conditions imposed by Hon'ble NGT vide its order dated 21<sup>st</sup> August, 2018 in Appeal No. 05 of 2018 and Appeal No. 06 of 2018 in the matter of Federation of Rainbow Warriors, Margao Vs. Union of India & Ors. and Hanuman Laxman Aroskar & Anr. Vs. Union of India & Ors.**

#### **I. Statutory compliance:**

- (i) The project proponent shall obtain certificate from Chief Wildlife Warden (CWLW) of State through State Government that none of the area of the project falls in the notified Eco-sensitive Zone (ESZ) and no activity prohibited in the Eco-sensitive zone will be taken up.
- (ii) 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.
- (iii) The project proponent shall obtain necessary permission from the competent authority for drawal of water from Tillari Irrigation Canal.

#### **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<sub>10</sub> and PM<sub>2.5</sub> in reference to PM emission, and SO<sub>2</sub> and NO<sub>x</sub> in reference to SO<sub>2</sub> and NO<sub>x</sub> emissions) within and outside the airport area covering upwind and downwind directions.
- (ii) Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities shall be complied with.
- (iii) 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
- (iv) The excavation working area should be sprayed with water after operation so as to maintain the entire surface wet.
- (v) Excavated materials shall be handled and transported in a manner that they do not cause any air pollution.
- (vi) The soil/construction materials carried by the vehicle should be covered by impervious sheeting to avoid leaking of the dusty materials.

#### **III. Water quality monitoring and preservation:**

- (i) Appropriate drainage channels need to be designed to take care of the water flow into the nearest water courses/rivers, etc.
- (ii) It should be ensured that sustainable water flow in the various channels of watershed in the plateau is maintained.

- (iii) 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 the storm water drains and directed to STP for treatment.
- (iv) Proper drainage systems, emergency containment in the event of a major spill during monsoon season etc. shall be provided.
- (v) The runoff from paved structures like Aprons can be routed through drains to oil separation tanks and sedimentation basins before being discharged into rainwater harvesting structures.
- (vi) 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.
- (vii) The project activity shall conform to the General Standards for Discharge of Environmental Pollutants notified in the Environment (Protection) Rules, 1986, and amended from time to time.
- (viii) 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 guidelines. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease.

#### **IV. Noise monitoring and prevention:**

- (i) Notification G.S.R. 568(E) dated 18.06.2018 of MoEF&CC regarding Ambient Air Quality Standards with respect to Noise in Airport Noise Zone shall be complied with.
- (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) 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.
- (iv) 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) 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.
- (vi) Where construction activity is likely to cause noise nuisance to nearby residents, restrict it to only during day time i.e. between 7 am to 6 pm.

#### **V. Energy Conservation/climate change measures:**

- (i) Energy conservation measures like installation of LED should be integral part of the project design and should be in place before project commissioning.
- (ii) Initiatives such as Green Infrastructure Development program, adoption of less emission intensive technologies, renewable energy program, electrical vehicles and Airport Carbon Accreditation need to be adopted to reduce its impact on climate change and Green House Gas (GHG) emissions as per environmental best practices governing greenfield airports.

## **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) 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.
- (iv) 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 managed so as to strictly conform to the Solid Waste Management Rules, 2016, and 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

## **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) The plantation species in and around Airport site should be carefully chosen to avoid bird nesting and to improve pollution control and noise control measures. Water intensive and/or invasive species should not be used for landscaping.
- (iii) Plantation activity should be taken up under the expert guidance for forest department of Goa, care should be taken that soil erosion measures should be taken up on priority so that the rich mineralized soil of forest is not washed away. The plantation activity should also have an approach of soil conservation where planting is done along the contours avoiding gully formation. As far as possible monocultural plantation should be avoided.
- (iv) The proposed 10 times compensatory plantation need to be monitored by the Government of Goa so that the target of planting 5.5 lakh saplings is achieved in a time bound manner, their survival rate is monitored and mortality is replenished. As major chunk of 2.5 lakh of saplings is proposed to be done by the village level Bio Diversity Committees, it is necessary to ensure that people are largely given native species and/or fruit bearing saplings so that they will be able to derive economic benefits from such fruit crops and also such trees will provide better biological environment to birds.
- (v) Top soil shall be separately stored and used in the development of green belt.

## **VIII. Public hearing and Human health issues:**

- (i) Solution/management plan regarding redressal of all the concerns raised in the public hearing must be clearly spelt out in the EMP and shall be implemented in letter and spirit. Compliance for each mitigation plan shall be submitted to Regional Office, MoEF&CC along with half yearly compliance report.

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

**IX. Additional Conditions to be incorporated as per Hon'ble NGT's order dated 21<sup>st</sup> August, 2018:**

**A. Air Environment**

1. Total Suspended Particulate Matter (SPM), Respirable Particulate Matter (RPM) during construction phase and un-burnt and Hydro Carbons (HC), Lead (Pb), CO<sub>2</sub>, SO<sub>2</sub>, CO<sub>2</sub>, SOOT and Oxides of Nitrogen (NO<sub>x</sub>) during operation phase are going to be major pollutants in this kind of project. Besides, fugitive emissions of Volatile Organic Compounds (VOC) during fuel handling can be another issue for ambient air environment. The provision of only 6 (six) Air Quality Monitoring Stations is inadequate as sampling duration has been given as 'twice a week, 4 week in a season as per CPCB standards for NAAQM, 1994. It would be appropriate if the Project Proponent establishes real time online continuous Air Quality Monitoring Station also which is connected to CPCB server and capable of monitoring all relevant and critical parameters and mitigation measures taken.
2. Although all parameters w.r.t ambient air parameters have been found to be within limits for all 6 (six) locations monitored, we feel for the purpose of giving/depicting holistic picture with regard to ambient air in the area, at least 3 (three) more locations falling in the State of Maharashtra be also monitored and documented.

**B. Water Environment**

1. Only two number of Rain Water Harvesting pits have been provided which we feel are not adequate and there is a need to place other pits at such locations so as to capture all the excess drainage for water re-charge.
2. More frequent Water Quality Monitoring i.e. once every month may be carried out by Project Proponent at bore wells and STP discharge plants instead of 4 (four) times in a year as proposed.

**C. Noise Environment**

1. It has been proposed that ambient noise levels shall be monitored around the premises of airport, near DG sets and at main entrance/boundary of airport once a week at 7 (seven) locations which we feel are inadequate. Besides these, continuous monitoring of occupational noise exposure limits in such industrial environments would be appropriate with audible or visual alarm output capability.
2. Integrated Noise Model (INM) be more frequently used and mitigation undertaken during the operational phase of project at regular intervals.
3. Although ambient noise levels have been found to be within limits at 9 (nine) locations monitored, we feel for the purpose of giving/depicting holistic picture with regard to ambient noise levels in the area, at least 3 (three) more locations falling in the State of Maharashtra be also monitored and documented.

#### **D. Land Environment**

1. There is a potential for impact on soil quality due to project related spills and leaks of fuel and chemicals and uncontrolled disposal of wastes and waste water. Adequate care be taken to avoid spills and leaks of hazardous substances and all project related wastes. Littering on sites and beyond the sites needs to be adequately prevented and controlled.
2. Debris and Muck Management Plan to be prepared and implemented so as to avoid spillage of muck and debris on the slopes.
3. Soil conservation and stabilization measures needs to be undertaken by deploying both mechanical and bio-engineering methods.
4. Remediation, restoration and compensation needs to be integral part of policy so as to provide adequate relief for any environmental or project related disasters.

#### **E. Biological Environment**

1. Efforts be made to transplant the trees to other locations in the same vicinity by using appropriate mechanical devices which are available these days.
2. Efforts be made to plant indigenous species which are tall in size rather than small saplings.
3. Concerns have been raised by appellants with regard to plant species 'Dipcadi concanense' which has been claimed to be a threatened plant. This claim of the appellants have been negated by the respondent by producing a documentation of Botanical Survey of India, Western Regional Centre, Pune, Maharashtra titled as "A Note on Occurrence and Distribution of Dipcadi concanense". By invoking Precautionary Principle, we direct the Project Proponent to draw up a Conservancy by Plan/Scheme for 'Dipcadi concanense' in collaboration with Forest Department, State of Goa and Botanical Survey of India and ensure its implementation.

#### **F. Socio-economic Environment**

1. Adequate drills with respect to implementation of Disaster Management plan needs to be carried out at regular intervals so as to ensure preparedness and rapid response to any disasters both man made or natural.
2. Although 'Disaster Management Plan' as Annexure-II is part of EIA Report under the Sub head 1.2.1- National Disasters needs further elaboration especially in terms of Emergency Response Measures, Rules and Responsibility, Mitigation, etc.

#### **Agenda item No. 40.3.2.**

##### **Development of New Civil Enclave at Kanpur Air Force Base, Uttar Pradesh by M/s Airports Authority of India, Kanpur - Environmental Clearance**

**(IA/UP/MIS/81283/2018; F.No.10-74/2018-IA-III)**

**40.3.2.1.** The project proponent and the accredited Consultant M/s ABC Techno Labs gave a detailed presentation on the salient features of the project and informed that:

- (i) The name of the project is Development of New Civil Enclave at Kanpur Air Force Base, Uttar Pradesh. The land use pattern of the land to be used for construction of proposed civil enclave is open land. After construction of new civil enclave, land use will be permanently changed to built-up area.
- (ii) Total water requirement is estimated as 215 KLD, out of which fresh water requirement for the proposed civil enclave is estimated as 119 KLD. For HVAC and green



belt/landscaping treated water from STP will be utilized. Airports Authority of India has already submitted application to CGWA for obtaining permission for bore wells at the site.

- (iii) From the proposed Civil Enclave, 107 KLD sewage will be generated, which will be treated in MBBR based sewage treatment plant. Treated waste water from STP will be used for HVAC and greenery development at the proposed Civil Enclave. There will be zero discharge of treated waste water from the proposed Civil Enclave.
- (iv) Approx. 365 kg per day solid waste will be generated from proposed Civil Enclave, which will be collected, segregated and handed over to external agency for disposal as per Solid Waste Management Rule, 2016. 145 kg/day recyclable plastic wastes and 40 kg/day recyclable metal waste (tin cans etc) (total 185 kg/day recyclable wastes) will be given for recycling to scrap dealer through third party hired by AAI. 170 kg/day Biodegradable food and paper wastes will be treated in two Organic Waste Converter (OWC) of 1000 kg capacity each and to be used as manure at the proposed Civil Enclave for development of landscaping and plantation. About 10 kg/day non-biodegradable inert wastes will be disposed at the sanitary landfill site.
- (v) Total power requirement is estimated as 720 kW for the proposed terminal building and other facilities at the proposed civil enclave at Kanpur. During operation phase, two DG sets of 500 kVA capacity and one standby fitted with acoustic enclosure will be installed for emergency power generation during grid power failure.
- (vi) During design and construction of the proposed Civil Enclave at Kanpur necessary measures will be taken for conservation of energy in line with 'Energy Conservation Building Code, 2017' and 'National Building Code, 2016'.
- (vii) At the proposed civil enclave 24 rainwater recharge pits will be constructed.
- (viii) Terms of Reference was granted by MoEF&CC vide letter F.No.10-74/2018-IA-III dated 30<sup>th</sup> November, 2018.
- (ix) Public hearing for establishment of Development of New Civil Enclave at Kanpur Air Force Base, Kanpur (Uttar Pradesh) was conducted by Uttar Pradesh Pollution Control Board on 2<sup>nd</sup> March, 2019 at Kanpur Civil Enclave under the Chairmanship of Additional District Collector, Kanpur Nagar District.
- (x) The car parking facility will be provided for at least 150 cars on 9,081 sqm area allocated for parking.
- (xi) Investment cost of the project is Approx. Rs. 168 Crores.
- (xii) Employment potential: Direct :200 persons, Indirect : 500 persons
- (xiii) Benefits of the project: Better infrastructure facilities for passenger, Increase in regional economy as it will boost tourism and commercial activities in the region. Generation of more revenue to the state, hence more development of the region, Boost in trade and commerce and more people to travel in the state, Employment opportunity to people, More business and industrial opportunities.

**40.3.2.2.** During the deliberation, the EAC noted the following:-

- (i) The proposal is for grant of Environmental Clearance to the project 'Development of New Civil Enclave at Kanpur Air Force Base', Uttar Pradesh by M/s Airports Authority of India, Kanpur.

- (ii) The project/activity is covered under category 'A' of item 7 (a) i.e. 'Airports' of the schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at Central level by sectoral EAC.
- (iii) Terms of Reference was granted by MoEF&CC vide letter F.No.10-74/2018-IA-III dated 30<sup>th</sup> November, 2018.
- (iv) Public hearing was conducted by Uttar Pradesh Pollution Control Board on 2<sup>nd</sup> March, 2019 at Kanpur Civil Enclave.

**40.3.2.3.** *The Committee deliberated upon the proposal and submission made by the project proponent and noted that Consent to Operate (CTO) was granted by UP Pollution Control Board vide Consent Order No. 42002/UPPCB/Kanpur Nagar (UPPCBRO)/CTO/air/KANPUR NAGAR/2018 dated 20.12.2018 under the Air (Prevention and Control) of Pollution Act, 1981 and Consent Order No. 42006/UPPCB/Kanpur Nagar (UPPCBRO)/CTO/water/KANPUR NAGAR/2018 dated 20.12.2018 under the Water (Prevention and Control) of Pollution Act, 1974 valid up to 31.12.2020.*

*The Committee also deliberated upon the issues raised during the Public Hearing/Public Consultation meeting conducted by the UP Pollution Control Board on 02.03.2019. The issues were raised regarding employment opportunities to local, proper disposal of solid waste to avoid bird hazard and waste water/storm water management etc. The Committee noted that issues have satisfactorily been responded by the project proponent and incorporated in the final EIA-EMP report. After deliberation, the Committee asked project proponent to submit the following:*

- (i) Submit detailed traffic study report as prescribed in the ToR.
- (ii) Submit No Objection Certificate from Fire Department for the existing Airport.
- (iii) Submit details of waste water generation along with details of STP proposed to be installed in phase wise manner.
- (iv) Submit details of green belt development.

***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.***

#### **Agenda item No. 40.3.3.**

**Proposed Redevelopment of General Pool Residential Accommodation (GPRA) Colony at Kasturba Nagar, New Delhi by M/s CPWD Delhi - Environmental Clearance**

**(IA/DL/MIS/98538/2017; F.No.21-11/2018-IA-III)**

**40.3.3.1.** The project proponent and the accredited Consultant M/s Amaltas Enviro Industrial Consultant LLP gave a detailed presentation on the salient features of the project and informed that:

- (i) The name of the project is Redevelopment of GPRA at Kasturba Nagar, New Delhi by M/s Central Public Works Department. The Site co-ordinates of the project site are as follow.

	Latitude	Longitude
<b>Corner-1</b>	28°34'43.03"(N)	77°13'45.02"(E)
<b>Corner-2</b>	28°34'30.97" (N)	77°13'44.63" (E)
<b>Corner-3</b>	28°34'32.31" (N)	77°13'34.19" (E)

<b>Centre of the Plot</b>	28°34'36.11" (N)	77°13'34.43" (E)
<b>Corner-4</b>	28°34'37.37" (N)	77°13'19.79" (E)
<b>Corner-5</b>	28°34'44.81" (N)	77°13'20.32" (E)

- (ii) This is redevelopment of GPRA colony at Kasturba Nagar, Project was constructed and operational before 2006, so EC was not required. This is re-development of existing general pool residential accommodation colony at Kasturba nagar, New Delhi. Total area of the site is 1,91,537.341 sqm (19.15 Hectare). Total built up area of the site is 7,67,008.962 sqm. Project shall have Staff quarters of Type-II to Type-VI having residential Towers from T1-T67, also having commercial and community facilities. Project shall have 3678 flats.
- (iii) Terms of Reference for the project was granted by Ministry of Environment, Forest and Climate Change vide letter F.No.21-11/2018-IA-III dated 14<sup>th</sup> June, 2018.
- (iv) During construction phase, total water requirement is expected to be 13,660 ML (4-5 years) which will be met by treated water from Municipal Corporation. 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 labor force.
- (v) During operational phase, total water demand of the project is expected to be approx. 2,135 KLD and the same will be met by 1340 KLD fresh water from Delhi Jal Board and 795 KLD from recycled water. Wastewater generated (1656 KLD) will be treated in STPs of total 2000 KLD capacity. 1325 KLD of treated wastewater will be recycled and re-use (574 KLD for flushing, 165 KLD for gardening, 32 KLD for HVAC and 24 KLD for DG cooling etc.). Surplus treated wastewater 530 KLD will be utilised by nearby areas under CPWD.
- (vi) About 11.36 TPD solid wastes will be generated in the project. The biodegradable waste (6.8 TPD) will be processed in OWC and the non-biodegradable waste generated (3.40 TPD) will be handed over to authorized local vendor.
- (vii) The total power requirement during construction phase is approx. 250. KVA and will be met from Power distribution department/genset and total power requirement during cooperation phase is 20000 kW and will be met from BSES.
- (viii) Rooftop rainwater of buildings will be collected in 46 RWH pits of 60 m<sup>3</sup> and 30 m<sup>3</sup> capacities for harvesting after filtration.
- (ix) Parking facility for 9,673 ECS is proposed to be provided against the requirement of 4,112 ECS respectively (according to local norms).
- (x) Proposed energy saving measures would save about 2% of power.
- (xi) Okhla Bird Sanctuary is located at 7.25 km in South East direction.
- (xii) Forest Clearance is not required.
- (xiii) Details of tree cutting: At present approx. 1203 trees are at site out of which approx. 405 trees will be translocated and 798 trees shall be retained, compensatory tree plantation will be done at site as well as other lands under CPWD/DDA.
- (xiv) No court case is pending against the project.
- (xv) Investment/Cost of the project is Rs. 2,000 Crores.
- (xvi) Employment potential: During Construction phase approx. 650-700 persons shall get employment. However during operational phase approx. 450 persons shall get occupied the area.

- (xvii) Benefits of the project: Redevelopment of Old staff quarters, Wastewater treatment, green belt, energy conservation, parking management, rainwater harvesting.

**40.3.3.2.** The EAC noted the following:-

- (i) The proposal is for grant of Environmental Clearance to the project Proposed Redevelopment of General Pool Residential Accommodation (GPRA) Colony at Kasturba Nagar, New Delhi by M/s CPWD Delhi.
- (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.
- (iii) Terms of Reference for the project was granted by Ministry of Environment, Forest and Climate Change vide letter F.No.21-11/2018-IA-III dated 14<sup>th</sup> June, 2018.

**40.3.3.3.** *The Committee was informed by the project proponent that this is the redevelopment of GPRA colony at Kasturba Nagar, New Delhi. Existing staff colonies in Kasturba Nagar were built a long time ago and are in crumbling condition which now needs to be redeveloped. The existing flats including community/social facilities will be demolished and new set of flats and community social facilities will be developed as per the norms of MoUD for GPRA. Proposed redevelopment has been planned with complete adherence to Environmental Sustainability and Green Building Concepts. Total area of the site is 1,91,537.341 sqm (19.15 Hectare). Built up area of the total demolished area is approx. 1,22,000 sqm. However, proposed built up area is 7,67,008.962 sqm. The Committee noted that at present approx. 1203 trees are there at site, out of which approx. 405 trees will be translocated and 798 trees shall be retained, no tree will be cut/felled. Compensatory tree plantation will be done at site as well as other lands under CPWD/DDA.*

*The project proponent confirmed before the EAC that the project will generate 800 kW solar power. However, CPWD shall try to generate maximum solar power in this project. The project proponent also confirmed the EAC that the project site does not fall under Eco-Sensitive Zone around Asola Wildlife Sanctuary and Okhla Bird Sanctuary. The project proponent further informed that during operational phase, total water demand of the project is expected to be approx. 2,135 KLD and the same will be met by 1340 KLD fresh water from Delhi Jal Board and 795 KLD from recycled water and no excess fresh water supply is required for the proposed redevelopment as existing water supply from Delhi Jal Board is sufficient to cater the future requirement. Further it was informed by the project proponent that a suitable augmentation to road infrastructure shall be done by PWD Delhi to avoid any congestion due to increase in traffic.*

*The EAC, based on the information submitted and clarifications provided by the Project Proponent and detailed discussions held on all the issues, recommended the project for grant of environmental clearance and stipulated the following specific conditions along with other Standard EC Conditions as specified by the Ministry vide OM dated 4<sup>th</sup> January, 2019 for the said project/activity (specified at **Annexure - 8** of the minutes), while considering for accord of environmental clearance:*

- (i) 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.
- (ii) The project proponent shall provide for adequate fire safety measures and equipment as per National Building Code/required by Fire Service Act of the State and instructions

issued by the local Authority/Directorate of fire, from time to time. Further, the project proponent shall take necessary permission/NOC regarding fire safety from Competent Authority as required.

- (iii) 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.
- (iv) Fresh water requirement from existing water supply by DJB shall not exceed 1340 KLD.
- (v) Sewage shall be treated in the STP based on MBR Technology with tertiary treatment i.e. Ultra Filtration. The treated effluent from STP shall be recycled/re-used for flushing, gardening, HVAC and DG cooling purposes. Surplus treated wastewater will be utilised by nearby areas under CPWD.
- (vi) 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.
- (vii) 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.
- (viii) 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. As proposed 46 nos. of rain water harvesting recharge pits shall be provided for rain water harvesting after filtration as per CGWB guidelines.
- (ix) 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. Wet garbage shall be composted in Organic Waste Converter. As proposed, 400 sqm area shall be provided for solid waste management within the premises which will include area for segregation, composting. The inert waste from project will be sent to dumping site.
- (x) CPWD shall be responsible for implementation of the traffic plan that is under preparation in coordinate with PWD, GNCTD (Road owning Agency) for the impact of the re-development project. The Traffic Management plan shall be implemented simultaneously and commissioned before allowing any occupants possession and start residence in the rehabilitated accommodation. Possession will be allowed to be given only after addition / alteration to road infrastructure required to maintain smooth flow of traffic.
- (xi) No tree cutting/felling would be permitted. However, the project proponent has proposed to transplant 405 trees. No tree transplantation should be carried out unless exigencies demand. Where absolutely necessary, tree transplantation shall be with prior permission from the Tree Authority constituted as per the Delhi Preservation of Trees Act, 1994 (Delhi Act No. 11 of 1994). 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). In case of non-survival of any transplanted tree, compensatory plantation in the ratio of 1:10 (i.e. planting of 10 trees for every 1 tree) shall be done and maintained.

- (xii) 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. As proposed, 54,895 sqm area shall be provided for green area development.
- (xiii) The project is recommended for grant of amendment in Environmental Clearance subject to final outcome in the W.P.(C) No. 6680/2018 in the matter of Dr. Kaushal Kant Mishra Vs Union of India & Ors pending before the Hon'ble High Court of Delhi.
- (xiv) As per the Ministry's Office Memorandum F.No. 22-65/2017-IA.III dated 1<sup>st</sup> May 2018, and proposed by the project proponent, an amount of Rs. 5 Crores (@0.25% of the project cost) shall be earmarked under Corporate Environment Responsibility (CER) for the activities such as unfiltered water supply line to distribute surplus recycled water to Lodhi Colony, JLN Stadium and CGO Complex, improvement and capacity building of Bhishm Pitamah Marg crossing of Defence Colony and Ratan Lal Sahdev Marg and afforestation and tree plantation in Central Government Colonies. 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.

#### **Agenda item No. 40.3.4.**

#### **Integrated Solid Waste Processing Facility at Murthal Village, Sonipat District, Haryana by M/s Directorate of Urban Local Bodies - Environmental Clearance**

**(IA/HR/MIS/59672/2016; F.No.10-73/2016-IA-III)**

**40.3.4.1.** The project proponent and the accredited Consultant M/s Wolkem India Limited gave a detailed presentation on the salient features of the project and informed that:

- (i) The proposed MSW disposal site is situated in Village Gurgaon, Tehsil & District Sonipat in Haryana. The nearest railway station is Sandal Kalan at a distance of 9.0 km. Indira Gandhi International airport is the nearest airport at an aerial distance of 57.0 km.
- (ii) The proposed project is categorized under Item "7(i) Common Municipal Solid Waste Management Facility (CMSWMF)" in the EIA Notification, dated 14<sup>th</sup> September, 2006 and its amendments.
- (iii) The project falls under interstate boundary of Uttar Pradesh which is distance about 4.46 km from project site so the proposed project falls under category 'A', it will be appraised by the Expert Appraisal Committee Infrastructure and Miscellaneous Projects + CRZ at Ministry of Environment Forest & Climate Change.
- (iv) **Expected Waste Quantity** - 485 TPD in 2017; 553 TPD by 2025 and 750 TPD by 2039. Proposed project shall have following facilities/units:
  - a. Bio Methanation – 50 TPD
  - b. Composting - 50 TPD
  - c. RDF - 352 TPD
  - d. Sanitary Landfill - 100 TPD
  - e. Waste to Energy Plant - 8 MW

- (v) **Water Requirement:** During construction phase water requirement will be about 6-8 KLD which will be brought from Municipal Corporation Sonipat. During operational phase total water requirement will be about 414 KLD which will be fulfilled by Municipal Corporation, Sonipat.
- (vi) **Power requirement:** The total power generation from the Waste to Energy plant shall be 8 MW out of which around 1 MW shall be used for captive consumption and approx. 7 MW shall be exported to Grid Substation. Sufficient capacity DG sets (500 KVA) are proposed for power backup.
- (vii) **Greenbelt Development Plan:** Greenbelt has been planned in the periphery of the proposed project site which along with the other planned green areas within the site, will cover about 33% of the total project area
- (viii) **Baseline Study Period:** The generation of primary data as well as collection of secondary data and information from the site and surroundings was carried out during winter season i.e. December 2016 to February, 2017.
- (ix) Terms of Reference was issued by MoEF&CC vide letter F.No. 10-73/2016-IA-III dated 28<sup>th</sup> November, 2016 and amendment in ToR was granted vide dated 27<sup>th</sup> July 2018.
- (x) Public Consultation: Public Hearing was conducted by Haryana State Pollution Control Board Sonipat on 18<sup>th</sup> January, 2019 at Project Site, Village Murthal, District Sonipat, Haryana.
- (xi) Estimated Project Cost is Rs. 154.44 Crores.
- (xii) Employment Generation: Workers in Construction Phase - Around 500 & Operation Phase: 861 (including manpower required for Waste collection & Transportation).
- (xiii) Benefits of the project: Employment Potential, Benefit to the Urban Local Body, Organized Collection of MSW and Improvement in Social & Physical Infrastructure

**40.3.4.2.** The EAC noted the following:-

- (i) The proposal is for Environmental clearance to the project 'Integrated Solid Waste Processing Facility at Murthal Village, Sonipat District, Haryana by M/s Directorate of Urban Local Bodies.
- (ii) The project/activity is covered under category B of item 7(i) Common Municipal Solid Waste Management Facility (CMSWMF)' of the Schedule to the EIA Notification, 2006 and its amendments, and requires appraisal at State Level. However, due to applicability of General Condition i.e. Interstate Boundary of Uttar Pradesh lies at a distance of 4.46Km from the site, the project is appraised at Central level by sectoral EAC.
- (iii) Terms of Reference was issued by MoEF&CC vide letter F.No.10-73/2016-IA-III dated 28<sup>th</sup> November, 2016 and amendment in ToR was granted vide dated 27<sup>th</sup> July, 2018.
- (iv) Public Hearing was conducted by Haryana State Pollution Control Board Gurugram on 18<sup>th</sup> January, 2019 at Project Site, Village Murthal, District Sonipat, Haryana.

**40.3.4.3.** *The Committee deliberated upon the issues raised during the Public Hearing/Public Consultation meeting conducted by the Haryana State Pollution Control Board on 18.01.2019. The issues were raised regarding air pollution, health issues of the local residents and ground water pollution by the proposed plant etc. The Committee noted that issues have satisfactorily been responded by the project proponent and incorporated in the final EIA-EMP report. The EAC, based on the information submitted and clarifications provided by*

*the Project Proponent and detailed discussions held on all the issues, recommended the project for grant of environmental clearance and stipulated the following specific conditions along with other Standard EC Conditions as specified by the Ministry vide OM dated 4<sup>th</sup> January, 2019 for the said project/activity (specified at **Annexure-7** of the minutes), while considering for accord of environmental clearance:*

- (i) 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.
- (ii) Green Belt along the periphery in 3 tier. 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) Ground water monitoring for Physico-Chemical parameters to be carried out and record maintained by providing piezometric wells along the flow channel (up and down).
- (iv) Leachates to be collected and utilized within project after proper treatment.
- (v) Environmental Monitoring Programme shall be implemented as per the EIA report and guidelines prescribed by CPCB for hazardous waste facilities. Periodical ground water/soil monitoring to check the contamination in and around the site shall be carried out.
- (vi) 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.
- (vii) On line real time continuous monitoring facilities shall be provided as per the CPCB or State Board Directions.
- (viii) Project Proponent shall develop green belt, as committed. At least 10 m thick greenbelt shall be developed in the periphery of sanitary landfill facility.
- (ix) Pre medical check-up to be carried out on workers at the time of employment and regular medical record to be maintained.
- (x) 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 non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water.
- (xi) As per the Ministry's Office Memorandum F.No.22-65/2017-IA.III dated 1<sup>st</sup> May 2018, and as proposed a fund of Rs. 2.35 Crore @1.5% of project cost shall be earmarked for activities under Corporate Environment Responsibility (CER) such as conducting skill development, health education training, vocational training, awareness camp for solid waste management in nearby villages, sanitation, scholarship programme for meritorious students of nearby villagers, support to special children education, pollution control, environmental protection and conservation 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.



**Agenda item No. 40.3.5.**

**Integrated Solid Waste Processing Facility at Bandhwari Village, Gurgaon District, Haryana by M/s Gurgaon Municipal Corporation - Environmental Clearance**

**(IA/HR/MIS/100246/2016; F.No.10-74/2016-IA-III)**

**40.3.5.1.** The project proponent and the accredited Consultant M/s Wolkem India Limited gave a detailed presentation on the salient features of the project and informed that:

- (i) The proposed MSW disposal site is situated in Village Bandhwari, Tehsil and District Gurugram in Haryana. The nearest railway station is Faridabad at a distance of 13.7 km in East direction. Indira Gandhi International airport is the nearest airport at an aerial distance of 18.10 km in NNW direction'
- (ii) The proposed project is categorized under Item "7(i) Common Municipal Solid Waste Management Facility (CMSWMF)" in the EIA Notification, dated 14<sup>th</sup> September, 2006 and its amendments. The project falls under interstate boundary of Haryana and Delhi which is distance about 0.98 km from project site so the proposed project falls under category 'A', and require appraisal at MoEF&CC.
- (iii) Expected Waste Quantity -1165 TPD in 2015; 1565 TPD by 2025 and 2100 TPD by 2035.
  - a. Composting- 147 TPD
  - b. Sanitary Landfill Design Life of Landfill is 20 Years
  - c. Power Plant - 15 MW
- (iv) Terms of Reference was granted by MoEFCC vide letter F.No. 10-74/2016-IA-III dated 27<sup>th</sup> March, 2017 and amendment in ToR was granted on 5<sup>th</sup> March, 2019.
- (v) Ecological Sensitive Areas: Asola Wildlife Sanctuary available within 5.82 km NE direction from the project site.
- (vi) During construction phase water requirement will be about 8-10 KLD which will be brought from Municipal Corporation of Gurugram. During operational phase total water requirement in the project will be about 837 KLD which will met from nearby STP at Behrampur by Gurugram Metropolitan Development Authority.
- (vii) Power requirement: Power up to 500 KW will be sourced from local grid during construction phase and will be backed up through 1 D.G sets of 630 KVA. During operation phase auxiliary supply from proposed power plant (15 MW) will cater the need of the MSW processing facility and same shall again be backed through Grid supply & DG set.
- (viii) Greenbelt Development Plan: Greenbelt has been planned in the periphery of the proposed project site which along with the other planned green areas within the site, will cover about 33 % of the total project area
- (ix) Study Period: The generation of primary data as well as collection of secondary data and information from the site and surroundings was carried out during winter season i.e. December 2016 to February, 2017. One month additional study was done in February 2019.
- (x) Public Consultation: Public Hearing was conducted by Haryana State Pollution Control Board Gurugram on 21<sup>st</sup> March, 2018 at Project Site, Village Bandhwari, District Gurugram, Haryana.
- (xi) Estimated Project Cost is Rs. 330.48 Crores.

- (xii) Benefits of the project- Employment Potential, Benefit to the Urban Local Body, Organized Collection of MSW and Improvement In Social & Physical Infrastructure
- (xiii) Employment potential: During construction phase- 500 persons will be employed. During operational phase - 2000 on site (About 1900 temporary employees will be hired for primary collection, transportation and miscellaneous jobs).

**40.3.5.2. The EAC noted the following:-**

- (i) The proposal is for Environmental clearance to the project 'Integrated Solid Waste Processing Facility at Bandhwari Village, Gurgaon District, Haryana by M/s Gurgaon Municipal Corporation.
- (ii) The project/activity is covered under category B of item 7(i) Common Municipal Solid Waste Management Facility (CMSWMF)' of the Schedule to the EIA Notification, 2006 and its amendments, and requires appraisal at State Level. However, due to applicability of General Condition i.e. Interstate Boundary of Haryana and Delhi is at distance about 0.98 km from the site, the project is appraised at Central level by sectoral EAC.
- (iii) Terms of Reference was issued to the project by MoEFCC vide letter F.No. 10-74/2016-IA-III dated 27<sup>th</sup> March, 2017 followed by amendment in ToR dated 5<sup>th</sup> March, 2019.
- (iv) Public Hearing was conducted by Haryana State Pollution Control Board Gurugram on 21<sup>st</sup> March, 2018, at Project Site, Village Bandhwari, District Gurugram, Haryana.

**40.3.5.3. The Committee deliberated upon the issues raised during the Public Hearing/Public Consultation meeting conducted by the Haryana State Pollution Control Board on 21.03.2019. The issues were raised regarding odour problem, water contamination, air pollution from waste to energy plant, segregation of solid waste, health issues of the local residents and ground water pollution by the proposed plant etc. The Committee noted that issues have satisfactorily been responded by the project proponent and incorporated in the final EIA-EMP report.**

*The Committee noted that Asola Wildlife Sanctuary is situated at 5.82 km NE direction from the project site. The EAC was informed that Eco Sensitive Zone of Asola Wildlife Sanctuary has not been notified in the State of Haryana and hence NBWL clearance will be required for the project. Also the project proponent has not applied for the NBWL clearance. The Committee asked the project proponent to submit the following:*

- (i) Submit status of clearance from National Board for Wild Life (NBWL).
- (ii) Submit revised Leachate Treatment Scheme (Plan) for the proposed project.
- (iii) Submit revised water balance.

***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.***

**Agenda item No. 40.3.6.**

**Madhya Pradesh Waste Management Project (a Division of Ramky Enviro Engineers Limited) at Plot No. 104, Industrial Area No. 2, Pithampur, Dhar District, Madhya Pradesh by M/s Ramky Enviro Engineers Ltd - Reconsideration for Environmental Clearance**

**(IA/MP/MIS/67217/2017; F.No. 10-50/2017-IA.III)**

**40.3.6.1. The EAC noted the following:-**

- (i) The proposal is for Environmental clearance to the project 'Madhya Pradesh Waste Management Project (a Division of Ramky Enviro Engineers Limited) at Plot No. 104, Industrial Area No. 2, Pithampur, Dhar District, Madhya Pradesh by M/s RamkyEnviro Engineers Ltd.
- (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 amendments, and requires appraisal at Central level by sectoral EAC.
- (iii) Terms of Reference was issued to the project by MoEF&CC vide letter F.No 10-50/2017-IA-III dated 08.09.2017.
- (iv) Public Hearing was exempted as per Para 7(i) III Stage (3) (i) (b) of EIA Notification, 2006 for preparation of EIA/EMP report, being site is located in the notified industrial area.
- (v) The proposal was earlier considered in 32<sup>nd</sup> meeting of Expert Appraisal Committee (Infra-2) held during 2-4 July, 2018 and 34<sup>th</sup> meeting of Expert Appraisal Committee (Infra-2) held during 24-26 September, 2018.
- (vi) Project Proponent has submitted the additional information on Ministry's website on 08.08.2018 and 07.03.2019.

**40.3.6.2.** *The Committee was informed that total water requirement for the project is 180 KLD in which fresh water is 156 KLD and treated water is 24 KLD. Fresh water requirement will be met through existing water pipelines by Madhya Pradesh Audyogik Kendra Vikas Nigam. The EAC, based on the information submitted and clarifications provided by the Project Proponent and detailed discussions held on all the issues, recommended the project for grant of environmental clearance and stipulated the following specific conditions along with other Standard EC Conditions as specified by the Ministry vide OM dated 4<sup>th</sup> January, 2019 for the said project/activity (specified at **Annexure-2** of the minutes), while considering for accord of environmental clearance:*

- (i) 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.
- (ii) As proposed, no ground water shall be abstracted for the proposed project.
- (iii) It shall be ensured that all the trees and other plantation are of the non-edible varieties and do not in any way encourage the incorporation of toxic materials in the food chain.
- (iv) Ambient air quality monitoring shall be carried out in and around the landfill site at up wind and downwind locations.
- (v) The depth of the land fill site shall be decided based on the ground water table at the site and may be such as permitted by the State Pollution Control Board.
- (vi) Environmental Monitoring Programme shall be implemented as per EIA report and guidelines prescribed by CPCB for hazardous waste facilities. Periodical ground water/soil monitoring to check the contamination in and around the site shall be carried out.
- (vii) On line real time continuous monitoring facilities shall be provided as per the CPCB or State Board Directions.

- (viii) No non-hazardous wastes, as defined under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, shall be handled in the premises.
- (ix) Project Proponent shall develop green belt with native plant species that are significant and used for the pollution abatement. At least 10 m thick greenbelt shall be developed in the periphery of hazardous waste facility.
- (x) 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 Authorisation under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 to prevent unwanted access.
- (xi) Pre medical check-up to be carried out on workers at the time of employment and regular medical record to be maintained.
- (xii) 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 non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water.
- (xiii) As per the Ministry's Office Memorandum F.No. 22-65/2017-IA.III dated 1<sup>st</sup> May 2018, and as proposed, a fund of Rs. 0.80 Crore @ 1% of project Cost, shall be earmarked under Corporate Environment Responsibility (CER) for the activities such as Drinking water supply, Health camps and facilities, Skill development, Roads & Cross drains, Electrification, Solar power, Sanitation, Solid waste management, Scientific support to farmers, Rainwater harvesting, soil conservation, Plantation (Avenue, community, schools, etc) and Others as per the requirement as proposed. 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.

#### **Agenda item No. 40.3.7.**

##### **Up gradation of the existing 4 MLD Common effluent treatment plant unit to 10 MLD at Industrial Estate, Kundli, Sonipat by M/s HSIIDC Kundli- Terms of Reference**

**(IA/HR/MIS/98445/2019; F.No.10-23/2019-IA-III)**

**40.3.7.1.** The project proponent and the accredited Consultant M/s Gaurang Environmental Solutions Pvt. Ltd. gave a detailed presentation on the salient features of the project and informed that:

- (i) The proposed project involves the up gradation of existing 4 MLD CETP to 10 MLD CETP. HSIIDC had acquired land measuring 559.5 Acres in the year 2000 at Kundli, District Sonipat for the proposed industrial area. A Total No of 10 Marla plots to 2 acres were carved out for setting of Industrial units of different type of Industries. The various industries present in the Phase I of Industrial area are as follows:
  - 1. Footwear
  - 2. Iron & fabrication
  - 3. Plastic goods.
  - 4. Pharmaceuticals.
  - 5. Chemicals.

6. Confectionary / food processing Cold Storages.
  7. Auto mobiles ancillaries.
  8. Electronic & electrical good etc.
- (ii) The existing common Effluent Treatment Plant (CETP) have capacity of 4.0 MLD (4000 cu.M/day), with inlet units of 10.0 MLD capacity. It is proposed to enhance treatment capacity from existing 4.0 MLD to 10.0 MLD. The existing treatment scheme consists of screening, physico-chemical treatment, Secondary/ biological (ASP) treatment and sludge handling for 4.0 MLD flow.
  - (ii) The existing water requirement for 4 MLD CETP unit is 3 KLD. Additional 2 KLD water will be required for the up-gradation of existing 4 MLD CETP to 10 MLD. Source of water supply will be existing water supply of Industrial Estate, Kundli
  - (iii) The ultimate quantity of raw effluent from industries has been estimated as 10 MLD. The effluent generated from member units will reach the CETP.
  - (iv) Existing Power Requirement for the project is 275 KW and additional Power Requirement for up-gradation is 425 KW/Day. Total Power Requirement will be 750 KW (Source: UHBVN). 2 no. D.G set of capacity 300 KVA (200 kVA + 100 kVA) are already installed for power backup at CETP Kundli. Additional 1 no. DG set of capacity 500 KVA will be installed for CETP up-gradation project. (Fuel used: HSD)
  - (v) Cost of the project: The expected capital investment for the proposed up-gradation project will be Rs. 21.02 Crores.
  - (vi) Employment potential: Manpower requirement during construction phase will be 30. Existing Manpower is 13.
  - (vii) Benefits of the project: This project is for up gradation of existing 4 MLD CETP to 10 MLD CETP for treatment of effluent being generated by its member industries. The imposition of new scale of, statutory standards on effluent treatment with water reclamation potential may require, in addition, a new infrastructural investment on the existing pollution control system of the individual units. This may be the driving point for the overall participation in the proposed up gradation CETP from industries to bring down drastically the pollution level. The charges to be levied on new scale on the basis of pollution load, breaking the orthodox style, would equally keep operational their own equipment. An attempt on water recovery for its recycling in the proposed CETP design may be an exemplary in the country with a start up in this Zone. There will be social benefits from the proposed up gradation; the underlying benefit through the proposed up gradation. The appropriate amount will be allocated towards the company's CER activities.

**40.3.7.2. During the deliberation, the EAC noted the following:-**

- (i) The proposal is for grant of Terms of Reference to the project 'Up gradation of the existing 4 MLD Common effluent treatment plant unit to 10 MLD at Industrial Estate, Kundli, Sonipat by M/s HSIIDC Kundli.
- (ii) The project/activity is covered under category B of item 7(h) 'Common Effluent Treatment Plant (CETP)' of the Schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at State Level. However, due to applicability of General Condition i.e. Haryana-Delhi interstate boundary at a distance of 2.3 Km in S direction, the project is appraised at Central level by sectoral EAC.

**40.3.7.3.** The EAC was informed that the existing Common Effluent Treatment Plant (CETP) have capacity of 4.0 MLD, with inlet units of 10.0 MLD capacity. It is proposed to enhance treatment capacity from existing 4.0 MLD to 10.0 MLD. The project has been granted Consent to Operate vide No. HSPCB/Consent/: 2803917SONCTOW4302574 dated 01.12.2017 by Haryana State Pollution Control Board, Sonapat and is valid up to 30.09.2019. During the deliberation, the Committee noted that the project proponent has not provided details of the existing and proposed industries from which the effluent will be received in the CETP. The Committee asked the project proponent to submit the details of existing and proposed industries along with quantity from each of the industry.

**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.**

#### **Agenda item No. 40.3.8.**

**Proposed expansion of secured landfill (Phase IV) of Integrated Common Hazardous Waste Treatment, Storage and Disposal Facility (TSDF) at plot number 9701-9716, GIDC Ankleshwar, proposed by M/s Bharuch Enviro Infrastructure Limited - Terms of Reference (IA/GJ/MIS/100385/2019; F.No.10-25/2019-IA-III)**

**40.3.8.1.** The project proponent and the accredited Consultant M/s Shivalik Solid Waste Management limited gave a detailed presentation on the salient features of the project and informed that:

- (i) Bharuch Enviro Infrastructure Limited (BEIL) is operating Integrated Common Hazardous Waste Treatment, Storage and Disposal Facility (CHWTSDf) consisting of secured landfill (SLF) (since 1997) and Common Incineration System (since 2004) at GIDC Ankleshwar. This is the first common landfill facility developed in India, under the guidance of National Productivity Council, New Delhi and the German experts with them. The CHWTSDf has been notified by Government of Gujarat. Phase-I of secured landfill facility, after disposal of 6Lacs MT(CCA) of solid/Hazardous wastes, has been capped as per CPCB guidelines. Phase-II of secured landfill has been designed by IIT Delhi and is in operation (since 2007) having the capacity of 17 Lacs MT. Phase III was developed between Phases I and II. It was designed by IIT Delhi, having designed capacity of 11.58 Lacs MT. The enhancement in capacity was further done from 11.58 lacs MT to 14.58 MT after obtaining the Environment clearance vide EC letter F.No.10-10/2014-IA-III, dated 16<sup>th</sup> April, 2018.
- (ii) The objective of proposed expansion is that the Phase I and Phase II sites has been completed and Phase-III is nearing completion. The total remaining capacity is approximately 830,000 tons, equivalent to about 3 years landfill operations. To allow continued operation beyond this period, it is necessary to identify and develop additional landfill capacity within the site.
- (iii) The Phase IV landfill development comprises optimization of the landfill capacity of the entire site, and this optimization requires more than one moderately sized area of expansion located around the existing landfill. When combined, such developments can represent a significant area to cater additional capacity in total.

	<b>Available Space(m<sup>3</sup>)</b>	<b>Landfill Capacity, waste density 1.5 Mg/m<sup>3</sup> (Tonnes)</b>
Additional Capacity	890,000	1,340,000

- (iv) The feasibility report has identified a proposed scheme to extend the life of the hazardous waste landfill at Ankleshwar for an additional approximately 5.5 years. The additional landfill capacity would comprise an extension to the existing landfill, at four locations around the perimeter. Engineering solutions have been identified to deliver the proposed Phase IV landfill extension.

	<b>Phase III</b>	<b>Phase IV</b>
Total Site Area = 69 acre. (2,79,233.09 sqm) = 27.92 ha	Total Site Area = 69 acre. (2,79,233.09 sqm) <b>Phase III</b> Pit Area = 2.98 Acre (12084 sqm) <b>Phase III</b> Closure Area = 14.755 Acre (59731 sqm).	<b>Available space: 890,000m<sup>3</sup></b>

- (v) The total project cost is 50.58 crores. Permission for Total Water Consumption of 657 KLD for existing facility including for domestic purpose (27 KLD) is already available from GIDC supply. No additional water will be required, since, there is a provision of only 15 numbers of additional employees after proposed expansion in capacity.
- (vi) No additional power is required. The existing source of electricity is Dakshin Gujarat Vij Company Limited (DGVCL). In case of power failure 2. D.G. Sets of 975 KVA each and 1 DG set of 600 KVA capacity shall be used.
- (vii) Leachate / Effluent from landfill will be treated in the existing Multiple Effect Evaporator (MEE) plant. Whenever MEE is not in operation, leachate will be sent to CETP of Enviro Technology Limited at Ankleshwar or same will be sent to MEE of Dahej.
- (viii) 41,000 sqm (14.683%) area is covered as greenbelt out of Total 2,79,233.34sqm land area. Additionally, after capping of the landfill cells, it is being covered with grass and *Jatropha carcus* plantation is being carried on periphery.
- (ix) The proposed project is located in notified industrial area of GIDC Ankleshwar. The project does not involve any forest land and there is no eco sensitive zone within 10 Km radius of the project.
- (x) The project lies in the Critically Polluted Area, as per the MoEF&CC OM No.J-11013/5/2010/IA-II (I) dated 25<sup>th</sup> November, 2016, the moratorium lifted in Ankleshwar.
- (xi) Investment/ Cost of the project is Rs. 50.58 Crores.
- (xii) Benefits of the project: Positive impact on environment in terms of better management of hazardous waste in the region. Aesthetics of the area will improve.
- (xiii) Employment Potential: During Construction phase, the labours and workers will be hired from nearby villages. (Construction phase: 100 workmen, Operation phase: 15 workmen)

**40.3.8.2. During the deliberation, the EAC noted the following:-**

- (i) The proposal is for grant of Terms of Reference to the project 'Proposed expansion of secured landfill (Phase IV) of Integrated Common Hazardous Waste Treatment, Storage and Disposal Facility (TSDF) at plot number 9701-9716, GIDC Ankleshwar, proposed by M/s Bharuch Enviro Infrastructure 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.

**40.3.8.3.** *The EAC was informed that Phase-I of secured landfill facility, after disposal of 6 Lacs MT (CCA) of solid/Hazardous wastes, has been capped as per CPCB guidelines. Phase-II of secured landfill has been designed by IIT Delhi and has been completed having the capacity of 17 Lacs MT. Phase III was developed between Phases-I and II. It was designed by IIT Delhi, having designed capacity of 11.58 Lacs MT. The enhancement in capacity was further done from 11.58 lacs MT to 14.58 MT after obtaining the Environment clearance vide EC letter F.No. 10-10/2014-IA-III, dated 16<sup>th</sup> April 2018. The objective of proposed expansion is that the Phase-I and Phase-II sites has been completed and Phase-III is nearing completion. The total remaining capacity is approximately 830,000 tons, equivalent to about 3 years landfill operations.*

*The proposed Phase IV landfill project is to utilize available space of 8,90,000 m<sup>3</sup> to accommodate 13,40,000 MT of hazardous waste of density 1.5 Mg/m<sup>3</sup> over a period of 5.5 years (disposal rate of approximately 240,000 tonnes/year).*

*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) 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.
- (vi) Compliance to the conditions of the consent to operate and authorization for the existing facilities. 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.
- (vii) Details of various waste management units with capacities for the proposed project.
- (viii) List of waste to be handled and their source along with mode of transportation.
- (ix) Other chemicals and materials required with quantities and storage capacities.
- (x) Details of temporary storage facility for storage of hazardous waste at project site.
- (xi) Details of pre-treatment facility of hazardous waste at TSDF.
- (xii) Details of air emissions, effluents, hazardous/solid waste generation and their management.



- (xiii) Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).
- (xiv) Process description along with major equipments and machineries, process flow sheet (quantitative) from waste material to disposal to be provided.
- (xv) Hazard identification and details of proposed safety systems.
- (xvi) 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.
- (xvii) Ground water quality monitoring in and around the project site.
- (xviii) The Air Quality Index shall be calculated for base level air quality.
- (xix) Status of the land purchases in terms of land acquisition Act and study the impact.
- (xx) Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.
- (xxi) R&R details in respect of land in line with state Government policy.
- (xxii) Details of effluent treatment and recycling process.
- (xxiii) Leachate study report and detailed leachate management plan to be incorporated.
- (xxiv) Action plan for measures to be taken for excessive leachate generation during monsoon period.
- (xxv) Action plan for any pollution of ground water is noticed during operation period or post closure monitoring period.
- (xxvi) Detailed Environmental Monitoring Plan as well as Post Closure Monitoring Plan.
- (xxvii) Submit details of Bio Medical Waste to be handled and the other facilities operating within 75 km area.
- (xxviii) A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project.
- (xxix) A detailed Plan for green belt development.
- (xxx) 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.
- (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) 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.

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

(xxxiv) 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.*

#### **Agenda item No. 40.3.9.**

#### **Expansion of Waterfront Development Plan for Mundra Port by APSEZ, Mundra, Gujarat by M/s Adani Ports and Special Economic Zone Limited - Terms of Reference**

**(IA/GJ/MIS/98592/2019; F.No.10-24/2019-IA-III)**

**40.3.9.1.** The project proponent and the accredited Consultant M/s Chola MS Risk Services Limited gave a detailed presentation on the salient features of the project and informed that:

- (i) The waterfront development has been accorded Environmental and CRZ clearance as per EIA Notification, 2006 and Costal Regulation Zone Notification, 2011 vide letter No: 10-47/2008-IA.III dated 12<sup>th</sup> January 2009 and addendum F.No: 10-47/2008-IA.III dated 19<sup>th</sup> January 2009. The extension of validity for Environmental and CRZ clearance has been given vide letter no: 10-47/2008-IA.III dated 7<sup>th</sup> October 2015 with validity up to 11<sup>th</sup> January 2019.
- (ii) Since all the activities in-line to existing Environment & CRZ Clearance was not completed, it is utmost importance to restore the current Environment & CRZ Clearance. Further, based on the growth of business and cargo ramp up, the need of development of the remaining components with minor modification as per the business needs and other technical suitability in the approved Water front development plan is required. Hence proposal for Environment & CRZ clearance for the optimization/expansion of Water front development plan has been prepared. All the activities proposed as part of the current expansion will be within the boundary of WFDP.
- (iii) For the expansion of WFDP plan, it is important to utilize the maximum marine development potential. Therefore, based on the future Cargo projections and business requirement of the hinterland, it is proposed to develop the port with the flexibility to handle various cargos. Type of berth and type of cargo is a commercial and business requirement. Hence, expansion plan will be developed with those flexibilities to accommodate berths and storage facilities as multi-purpose. The expansion plan will consist of berths at various locations, material handling area, cargo storage area, operational and utility area, internal connectivity, drainage, greenbelt and various utilities, amenities and bunkering facilities.
- (iv) Along with berths, backup facilities and independent port craft facilities, waste reception facilities, conveyor systems, drainage, water supply, electrical works, internal roads, railway works and other utilities, amenities and bunkering will be developed to accommodate all multipurpose cargo such as Liquid, Bulk, Break Bulk, Project Cargo, General Cargo, Dry Cargo, Container, Ro-Ro & Automobiles and any other non-hazardous cargo and Liquid /Gas/ Cryogenic cargo (up to -162 degree Celsius,

Pressurized Gases). Area outside the CRZ will be utilized for development of Industries. Necessary approvals for the same will be obtained, if required

- (v) The cumulative configuration of the waterfront development facility includes the following
- (vi) The entire expansion activities will be undertaken within the approved area of 5170 Ha of WFDP.
- (vii) About 385 MMTPA of multi-purpose/liquid/gas/cryogenic cargo will be handled in addition to the existing approved capacity of 225 MMTPA.

S. No.	Description	Approved	Already developed	Proposed Expansion
1	Quay Length (m)	22000	7870	14470
2	Dredging (MCuM)	210	123	350
3	ETP (KLD)	265	265	1000
4	STP (KLD)	50000	55	50000
5	Desalination Plant (MLD)	300	47	400

- (viii) The entire existing and proposed quay length will be used for handling multi-purpose/liquid/gas/cryogenic cargo.
- (ix) Necessary augmentation of the existing quay length and backup facilities will be undertaken for handling multi-purpose/liquid/gas/cryogenic cargo.
- (x) As a part of proposed expansion plan, it is proposed to develop remaining extension of 500 m on each side of eastern and western breakwater to prepare a round head in the south port which has been approved earlier as per the accorded EC of WFDP.
- (xi) West side breakwater of west port has already been developed. However, eastern side breakwater of length 5000 m is approved but yet not developed. The same is proposed to be developed as a part of proposed expansion.
- (xii) All associated facilities for development of above configuration, is also being proposed as a part of expansion plan.
- (xiii) The maximum water withdrawal from intake will be in the range of 1500 MLD for desalination plant of capacity 400 MLD. The reject outfall quantity from desalination plant will be approximate 1100 MLD, which will be disposed at marine disposal location, identified through modelling studies
- (xiv) Electricity requirement during operation phase will be in the range of 19,00,000 to 20,00,000 kWh/day. It will also be sourced from GEB. During operation phase, power back up in form of DG sets will be available to the tune of 40 MVA to 50 MVA. Diesel consumption for the same will be to the tune of 400 Lit/hr
- (xv) The estimated quantity of MSW generated will be about 1- 1.2 TPD of which 60% will be biodegradable and 40% non-biodegradable during Revised Master Plan. Municipal wastes generated will be handled as per prevailing norms. The hazardous waste such as used oil, spent oil, Wastes/Residue containing oil, Pig wastes, Oil soaked rags, Cotton waste, discarded containers, barrels & Used Battery and Sludge from ETP will be handled as per Hazardous Waste Management Rules (as amended). Hazardous wastes will be disposed through approved SPCB/CPCB vendors
- (xvi) Total capital cost for the proposed expansion plan is estimated to be approximate Rs. 57594 Crore.
- (xvii) The project when fully operational also brings in direct employment potential of about 1200 nos. hereby opening up employment opportunities for the youth in the catchment

region. Additionally, the induced development due to the Port Expansion can bring indirect employment about 3600 people

- (xviii) Baseline Environmental Monitoring has been completed for the period December 2018 to March 2019.

**40.3.9.2.** The EAC noted the following:-

- (i) The proposal is for grant of Terms of Reference to the Expansion of Waterfront Development Plan for Mundra Port by APSEZ, Mundra, Gujarat by M/s Adani Ports and Special Economic Zone 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 by sectoral EAC.

**40.3.9.3.** *The EAC was informed that the waterfront development has been accorded Environmental and CRZ clearance as per the EIA Notification, 2006 and Coastal Regulation Zone Notification, 2011 vide letter F.No.10-47/2008-IA.III dated 12<sup>th</sup> January, 2009 and addendum F.No.10-47/2008-IA.III dated 19<sup>th</sup> January, 2009. The extension of validity for Environmental and CRZ clearance has been given vide letter F.No.10-47/2008-IA.III dated 7<sup>th</sup> October, 2015 with validity up to 11<sup>th</sup> January, 2019. Since all the activities in-line to existing EC & CRZ Clearance was not completed, it is utmost importance to restore the current EC & CRZ Clearance. Further, based on the growth of business and cargo ramp up, the need of development of the remaining components with minor modification as per the business needs and other technical suitability in the approved Water front development plan is required. Hence proposal for EC& CRZ clearance for the optimization/expansion of Water front development plan has been prepared. All the activities proposed as part of the current expansion will be within the boundary of WFDP.*

*The Additional 385 MMTPA of multi-purpose/Liquid/gas/cryogenic cargo will be handled in addition to the existing approved capacity of 225 MMTPA. The Committee discussed the project in detail. 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 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 superimposing of latest CZMP as per CRZ (2011) on the CRZ map.
- (v) Submit a complete set of documents required as per para 4.2 (i) of CRZ Notification, 2011.
- (vi) 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.
- (vii) Compliance to the conditions of the consent to operate and authorization for the existing facilities. 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.

- (viii) Hydrodynamics study on impact of jetty/dredging on flow characteristics.
- (ix) Flooding and related impact on creek and control area during the cyclonic storm should be studied.
- (x) Ship navigational studies for the entrance channel should be carried out.
- (xi) 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.
- (xii) Various Dock and shipbuilding facilities with capacities for existing and proposed project.
- (xiii) The EIA would give a detailed analysis of the Impacts of storage and handling and the management plan of each cargo type along with the proposed compliance to the Hazardous Chemicals Storage rules.
- (xiv) Study the impact of dredging on the shore line and protection of northern coast by beach nourishment.
- (xv) 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.
- (xvi) 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.
- (xvii) Details of Emission, effluents, solid waste and hazardous waste generation and their management in the existing and proposed facilities.
- (xviii) The sampling locations of the baseline should be collocated with ongoing sampling locations.
- (xix) Area of dredging or land reclamation should be clearly defined.
- (xx) Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).
- (xxi) Permission from CGWA in case of groundwater use being proposed for the project.
- (xxii) Wastewater Management Plan.
- (xxiii) Details of Environmental Monitoring Plan.
- (xxiv) To prepare a detailed biodiversity impact assessment report and management plan through the NIO 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.
- (xxv) 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.

- (xxvi) 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.
- (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 handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
- (xxix) The Air Quality Index shall be calculated for base level air quality.
- (xxx) The EIA would study the impact of dewatering and draw up an action plan for disposal of the excess water.
- (xxxi) The EIA would study the impact of Demolition and conformance to the Construction and Demolition Rules under the E.P. Act 1986.
- (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) 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) 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.
- (xxxviii) 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.*

#### **40.4. Any other item: NIL**

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**LIST OF PARTICIPANTS OF EAC (INFRASTRUCTURE-2) IN 40<sup>th</sup> MEETING OF EAC (INFRASTRUCTURE-2) HELD ON 23<sup>rd</sup> April, 2019**

<b>S. No.</b>	<b>Name</b>	<b>Designation</b>	<b>Attendance</b>	<b>Signature</b>
1.	Prof. T. Haque	Chairman	P	
2.	Dr. N. P. Shukla	Member	P	
3.	Dr. H. C. Sharatchandra	Member	P	
4.	Shri V. Suresh	Member	P	
5.	Dr. V. S. Naidu	Member	P	
6.	Shri B. C. Nigam	Member	P	
7.	Dr. Manoranjan Hota	Member	A	
8.	Dr. Dipankar Saha	Member	P	
9.	Dr. Jayesh Ruparelia	Member	P	
10.	Dr. (Mrs.) Mayuri H. Pandya	Member	A	
11.	Dr. M. V. Ramana Murthy	Member	P	
12.	Prof. Dr. P.S.N. Rao	Member	A	
13.	Shri Kushal Vashist	Director & Member Secretary	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, 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) 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<sub>10</sub> and PM<sub>2.5</sub> in reference to PM emission, and SO<sub>2</sub> and NO<sub>x</sub> in reference to SO<sub>2</sub> and NO<sub>x</sub> 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 1<sup>st</sup> 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 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 language within 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<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub> (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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**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, 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. 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<sub>10</sub> and PM<sub>2.5</sub> in reference to PM emission, and SO<sub>2</sub> and NO<sub>x</sub> in reference to SO<sub>2</sub> and NO<sub>x</sub> 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 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. 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 1<sup>st</sup> 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 language within 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<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (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, 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. 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<sup>3</sup>.
- 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 devices (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 1<sup>st</sup> 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 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 namely; PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (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, 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. 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 (in case 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 carry out Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM<sub>10</sub> and PM<sub>2.5</sub> in reference to PM emission, and SO<sub>2</sub> and NO<sub>x</sub> in reference to SO<sub>2</sub> and NO<sub>x</sub> 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 1<sup>st</sup> 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 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 language within 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<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (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<sub>10</sub> and PM<sub>2.5</sub> 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 1<sup>st</sup> 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 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, 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. 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 1<sup>st</sup> 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 MoEF&CC/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, 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. 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<sub>2</sub>, NO<sub>x</sub> 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<sub>10</sub> and PM<sub>2.5</sub> in reference to PM emission, and SO<sub>2</sub> and NO<sub>x</sub> in reference to SO<sub>2</sub> and NO<sub>x</sub> 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 1<sup>st</sup> 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.

**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<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (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, 1986, 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<sub>10</sub> and PM<sub>2.5</sub>) 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, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.
- vi. Sand, murrum, 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-swailes, 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 27<sup>th</sup> August, 2003 and 25<sup>th</sup> 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 1<sup>st</sup> 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 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).
- 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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