

**Minutes of the 109th Goa State Expert Appraisal Committee (Goa-SEAC)
meeting held on 21st November 2019 at 10.30 am in the Conference Room of
the 3rd floor, GTDC, Patto-Panaji, Goa.**

The hundred and ninth meeting of the Goa-SEAC was held on 21st November 2019 in the Conference room of the GTDC, ParyatanBhavan, Panaji at 10.30 am under the Chairmanship of Prof.SuhasGodse. The list of members who attended the meeting is at Annexure – 1.

At the beginning Chairman welcomed the members and requested Secretary, SEAC to proceed as per the Agenda items (refer Annexure – 2).

1. Application was received from GWMC dated 07/12/2017 from **Goa Waste Management Corporation (GWMC)** requesting for revision in TORs for conducting Environment Impact Assessment (EIA) for the proposed setting up of Solid Waste Management Facility (SWMF) bearing survey nos. 20 Sub Division no-1-1, 3-A-1, 2-A, of village Bainginium. (Old Survey no 20/1 (P), 20/2 (P) and 20/3-A (P) Tiswadi taluka, North Goa district. During 93rd Goa-SEAC meeting held on 10th May 2018 the said application (*i.e. Form-I*) along with enclosed information was screened and appraised by the Goa-SEAC under Category 7 (i) of Common Municipal Solid Waste Management, as per the Schedule annexed to the EIA Notification, 2006 (as amended) and terms of reference were issued for conducting Rapid Environmental Impact Assessment study for establishing a Integrated Solid Waste Management Facility (ISWMF) for 250 + 20% TPD on 17/05/2018.

The office of SEIAA received the draft EIA report dated 07/05/2019 prepared by CSIR-NEERI, Nagpur as per the TORs issued by committee on 17/05/2018. The committee decided that the application will be considered after submission of minutes of public hearing. Subsequently the proponent submitted the detailed proceedings of the public hearing conducted by Goa State pollution Control Board under the chairmanship of Collector and District Magistrate (North Goa) along with the response to the suggestions and objections submitted by public during public hearing.

During 108th Goa-SEAC meeting held on 1st October 2019 the officials from NEERI along with officials from Goa Waste Management Corporation (GWMC) presented detailed project specific presentation and submitted final EIA report prepared by CSIR-NEERI, Nagpur on 13/09/2019 for proposed Solid Waste Management Facility at Bainginum, Goa by **Goa Waste Management Corporation**. During presentation the PP presented the response to public objection and suggestion. The committee expressed that GWMC should provide comprehensive response to the public observation and suggestion and also re-validation to be done with regards to biodiversity including flora fauna and avian biodiversity and resubmit to the Goa-SEAC.

Thereafter Solid Waste Management Corporation (GWMC), re-submitted comprehensive response to the public observation, and suggestion along with study of biodiversity including flora fauna and avian biodiversity to the Goa-SEAC .

The committee decided to conduct site visit of the proposed site. During the site visit the Committee noted that there were two abandoned quarries approximately 5 hectares (50,000/sqmts) having excellent green cover which are part of the acquired land and there are residential complexes sharing common boundaries with proposed site. The committee also observed that there is a Water pipe line and Electricity line passing through the plot and dumping of waste in quarries by surrounding residential complexes.

As such, while appraising the said project proposal, Committee relied upon the following

1. Form I and annexure enclosed (at the time of seeking ToRs).
2. Final EIA report dated 13/09/2019 prepared by CSIR-NEERI, Nagpur was submitted by the Project Proponent (GWMC).
3. Response submitted by PP to the suggestions and objections raised by public during public hearing.
4. Project presentation and submission made by PP / Technical Consultant during the 108th Goa-SEAC meeting held on 1st October 2019, Site visits/inspection conducted by Goa-SEAC on 21st November 2019,
5. The existing location, land use / land cover vis-a-vis present status of site conditions including the nature of activities proposed.

The committee noted that GWMC is a nodal agency for executing Waste Management infrastructure projects in the estate of Goa. GWMC has proposed a Solid waste management facility at Bainguinim village on the land which was acquired by the CCP in the year 2008 for the purpose and which is on similar lines as set up in North Goa at Calangute/Saligao and proposed facility at South Goa at Cacora with further improvements based on the experience at Calangute/Saligao which was mentioned by the PP during presentation before Goa-SEAC.

The proposed facility at Bainguinim is considered to be a central facility for the state of Goa as there is a need to enhance the existing SWM system for regional area and thus improve the health and having standards of its residents. The main objective of the establishment of centralised SWM is for the scientific processing of disposal of solid waste by the local bodies in compliance with the MSW rules 2016.

GWMC has undertaken the work for establishment of the 250 + 20% TPD capacity Centralised Integrated Solid Waste Processing Facility. GWMC retained CSIR-NEERI Nagpur to carry out EIA studies as per TOR issued by Goa-SEAC.

The PP submitted that the existing number of decentralised units is insufficient. ULBS are finding it difficult for identifying new areas for setting up of new decentralised compost units as well as operating the same. The issue of Waste Management is subject matter of petition before the Hon High Court in W.P No 2 of 2007 and Hon High Court was pleased to pass various directions to the local bodies to comply with the provisions of the Municipal Solid Waste Management Rules, 2000 then in force. However due to the failure of the local bodies to comply

with the orders of the Hon High Court as well as the provisions of the Municipal Solid Waste Management Rules, 2000 the State Government decided to have Centralised facilities, the details of which were part of the submissions before the Hon High Court, Hon National Green Tribunal, Principal Bench and also part of the State Policy on Waste Management. The said site is identified as garbage management site as per RP 2021.

The PP also submitted that there were challenges to the land acquisition in the Hon High Court of Bombay at Goa and all the challenges were dismissed and the acquisition upheld. The PP submitted that some similar issues were raised in these Challenges before the Hon High Court as were raised during the Public Hearing. The PP submitted the copies of the orders passed by the Hon High Court during the presentation. The committee noted that while considering the application of M/s MANGALAM CASA AMORA which shares a common boundary with the proposed Solid Waste Management Facility for Environmental Clearance for their Residential Project, a No objection certificate was sought from MANGALAM CASA AMORA. At Survey No. 20/3-A, for the Proposed Waste Management Facility at the identified site. They also assured that they will incorporate the same commitment in their sale agreement with the purchaser of flat in our project. So that at time of Purchase the purchaser agrees to give "NO OBJECTION CUM CONSENT" to the proposed SWMP.

It was the submission of the PP that the site was acquired in 2008 and the Residential Projects have come thereafter. The alternative to transport the waste to existing plant at Calangute or to proposed site at Verna was found to be not feasible due to constraint of transportation cost and also the capacities proposed at those sites.

As far as the distance from the Salim Ali Bird Sanctuary is concerned the PP clarified that the same is beyond 5 kms and as per the Office Memorandum of the MoEFCC No F.No 22-43/2018-IA-III dated 08/08/2019 the 10 kms is applicable only to those National Parks/ Wildlife Sanctuaries wherein the final ESZ Notification is not notified. The PP submitted that the final ESZ notification for Salim Ali Bird Sanctuary has already been notified as per the Office Memorandum of the MoEFCC No 25/35/2013 "ESZ-RE dated 24th October, 2013 and hence only 5 Kms is applicable as per the OM dated 08/08/2019 and the proposed site is more than 5 kms from the said Salim Ali Bird Sanctuary. The PP also submitted the Google map in support of their submission.

Centralized Material recovery facility for recovering recyclables out of the non biodegradable component of city waste with provisions for screening, manual sorting on a conveyor belt, magnetic separator, bailing, packing and storage facilities.

The Committee noted that the proposed quantity to be handled and equipment's proposed by Project proponent is as follows:

(a) Quality of Input Waste:

The proposed CMSWMF at Bainguinim has been designed for the following characteristics of waste:

Sr. No.	Type of Waste	Qty. TPD
1	Segregated Dry Waste	50
2	Segregated Wet Waste	150
3	Mixed Waste	50
	Total	250

(b) Performance from the Facility:

The proposed CMSWMF shall comply with The Solid Waste Management Rules, 2016 prescribed by Ministry of Environment, Forests and Climate Change, Government of India. It shall be designed to be able to treat 250 MT waste daily and shall produce the output as follows:

Sr. No.	Output	Utilization
1	Recyclables	Recyclables shall be recovered as much as possible and routed through appropriate recycling vendors.
2	Refused Derived Fuel (RDF)	The RDF shall be disposed in an environmentally safe and sustainable manner in the nearby Cement Plants for co-processing where it shall be combusted in Cement Kilns at a temperature >1100 0C with no residues, thus eliminating the need for a Landfill for ash disposal.
3	Electricity	<ul style="list-style-type: none"> • Electricity generated from Bio methanation plant shall be utilized to run the entire facility. • Surplus electricity shall be exported to the Electricity Grid .
4	Compost	<ul style="list-style-type: none"> • Compost shall be sold to local farmers and/or nearby Fertilizer Industry (Zuari Agro Chemicals, Goa). • Alternatively, the Dried Pallet shall be used as fuel to generate heat.
6	Inert	<ul style="list-style-type: none"> • Inert fraction shall be disposed in the Sanitary Landfill Facility (SLF) which will be less than 10% of the total waste received at site. • Alternatively, inert fraction shall be used as a filling material in reclamation of low-lying area.

The site is located at village Bainginium village Tiswadi taluka, and bearing survey nos. 20 Sub Division no-1-1, 3-A-1, 2-A, of village Bainginium. (Old Survey no 20/1 (P), 20/2 (P) and 20/3-A (P). The land has been acquired by the Government for setting up the Integrated Solid Waste Management Facility and is admeasuring 17,1312 sq.mts. While the overall layout area of the plant is 17 hectares, major part of the area is covered with deep quarry pits (approx. 5 hectares). Further a 5 m wide green belt has been planned around the periphery of the ISWM facility, for the design 25 years from issue of SWM Rules 2016 and secured land fill for up to 10 years from date of commencement of facility has been proposed (Sanitary landfill cells are designed to store 10% of the inert fraction over a period of 10 years in the land fill cells.)

The proposed CMSWMF has been designed considering receipt of waste at the Facility for 365 days per year, but effective working days as 320 days per year so as to provide sufficient downtime and maintenance of the Plant. The Facility has been designed considering operation of the Facility in 2 Shifts per day with 6 hours Operation Time + 2 hours Cleaning Time in each Shift i.e. effective Operation Time as 12 hours/day. The Facility shall have two (2) Weighbridges (One for Entry and one for Exit). The Tipper Trucks / Refuse Compactors will be visually inspected and if found in accordance with the Treatment and Operation Philosophy of the Plant, will be weighed and permitted into the Facility. The Mixed Waste, segregated Dry Waste and segregated Wet Waste, after visual inspection weighing at Weighbridge, shall be delivered to the dedicated bunkers for each type of waste respectively. It shall be a totally enclosed structure with Entry/Exit of Garbage Compactors, Floor Washing Connections, Drainage System, Lighting, Ventilation and Odour Control System.

Local manpower is proposed to be trained in operating the facilities to improve skill sets and competence. A special in house Resource centre to exhibit the potential of converting waste into useful products and also conducting regular tours for visitors, students and other academicians involved in sustainable waste management solutions.

The GWMC proposes to install the following machinery for treatment of mixed waste.

Infeed Chain Belt conveying bunker, in lieu of tipping floor. The waste will be directly fed on to the conveying bunker with adequate Storage Volume at front end and rotating Drum Feeder at the other end so as to feed the waste uniformly to the downstream Windshifter feed Conveyor. Three fractions shall be separated in the windshifter. The windshifter shall separate the waste into heavy fraction, light fraction and super light fractions from waste stream. The heavy fraction shall be conveyed to Iron separator followed by Disc screen. Iron Separator shall be provided to remove ferromagnetic materials from the waste stream using permanent magnet type iron separator. The light fraction shall be conveyed to sorting station for further sorting and recovery of Recyclables, the superlight fraction shall be conveyed to RDF shed.

The waste further processed through Disc Screen, where the underflow fraction shall be taken to the Organic Extrusion Press or the screw press while the overflow fraction shall be taken to the Manual Sorting Station. At the manual sorting station the waste shall be manually handpicked into various fractions such as PET, metal, cardboard etc. The recyclables or non recyclables shall be shredded or baled based on the final requirement. The underflow fraction from the disc screen is hydraulically squeezed out into two fractions i.e. dry fraction and wet fractions. The Wet fraction shall be conveyed to Capacity of Organic Extrusion Press for further processing. Dry Fraction shall be discharged and taken to a Composting drums or solar drying shed for further processing.

1. .

Wet Fraction, will be conveyed to the Biomethanation System after passing through plastic and grit removal system. As per the learning from SWMF Saligao, Liquid Fraction separated by the proposed Organic Separator contains physical contaminants including glass, stones, grit,

plastic, plastic film, paper and other floatable fibers which build-up in the Digesters over time as either settled material or as a floating layer..The removed grit shall be washed to recover organics back into the process and produce clean, drained grit for disposal whereas the de-gritted substrate shall be collected and pumped to a Buffer Tank from where it will be transferred to the existing as well as proposed Digesters.

The Buffer Tank shall act as a Storage Tank to receive the de-gritted substrate and pump to the proposed Digesters at a uniform rate. It will be equipped with Mixer and Biogas Extraction System. The Digester of volume of minimum 15 days retention time shall be provided with Mixer and Heating System to ensure digestion of the contents in a thermophilic range of 45-55 degree Celsius. The fermentation of organics in an anaerobic atmosphere will generate biogas, which will contain 50-70% methane. The biogas shall be stored in the double membrane type Biogas Holder, anchored on the top of the Digester. After completion of the digestion process, the digested substrate shall be pumped to the Sludge Dewatering System, which shall separate the Dewatered Sludge and Centrate. The dewatered sludge shall be used in Composting Facility. A part of the Centrate shall be recycled into the Digesters for dilution and part of the Centrate shall be pumped to the Effluent Treatment Plant (ETP). The ETP of capacity 500KLPD will treat wastewater generated from various sources e.g. washing of floors/mobile machinery and centrate from sludge de-watering equipment etc. ETP comprising Ammonia Stripping System, Equalization, Physico-chemical Treatment, Biological Treatment and Filtration System. The treated effluent shall be reused for cleaning, floor washing and gardening etc.

The fermentation of organics in an anaerobic atmosphere in Bio-methanation System will generate biogas, which will contain 50-70% methane. The biogas shall be stored in the double membrane type Biogas Holder, post removal of Hydrogen Sulphide (H₂S) by Biogas desulphurization System and Moisture by Biogas Dehumidification System, fed to the 2 nos Biogas Genset based Power Plant of 800 kWe each capacity to generate electricity which shall be utilized to run the entire Facility including Process Units, Lighting, Ventilation and various auxiliaries of the Biogas Gensets. The surplus electricity shall be exported to the Electricity Grid. A part of thermal energy (waste heat) generated shall be used for heating the content of the Anaerobic Digesters so as to maintain thermophilic conditions. A Biogas Flaring System shall be provided to flare biogas in the event of any emergency.

The dewatered sludge from Sludge Dewatering System shall be conveyed to the Compost Turning cum Drying Facility to produce Compost. Suitable Bulking Material (e.g. Wood Chips) shall be added, if required to achieve desired C:N Ratio, Moisture and Bulk Density. After drying, the compost shall be screened using a Trommel Screen.

Sanitary Landfill Facility of adequate surface area shall be constructed is to dispose inert material, removed in RDF Line from Flip Flow Wave Screen in compliance with the guidelines laid down by CPCB and in compliance with SWM Rules 2016.

After visual inspection of waste and weighing at Weighbridge, the waste shall be delivered to the dedicated bunkers for each type of waste respectively..

After considering the matter from all necessary and relevant angles and after perusal of the Environmental Impact Assessment (EIA) report prepared by M/s NEERI, Nagpur and upon examination of the entire matter, Committee decided to recommend the proposal for setting up of Integrated Solid Waste Management Facility (ISWMF) for 250 + 20%TPD bearing survey nos. 20 Sub Division no-1-1, 3-A-1, 2-A, of village Bainginim. (Old Survey no 20/1 (P), 20/2 (P) and 20/3-A (P) Tiswadi taluka, North Goa district to Authority (Goa-SEIAA) for grant of environmental clearance (EC) to the said project in accordance with the provisions of the Environmental Impact Assessment (EIA) Notification 2006, *(as amended till date)* subject to compliance of the following **General Conditions**

1. A Centralized Integrated Solid Waste Management Facility (ISWMF) provisions for MRF Facility, Bio-methanation system along with gas engines, In-Vessel Composting system, Sanitary Landfill, Mobile vehicles, workshop, Facility centre for operators, having canteen, shower area and medical room, Administration building, laboratory, Resource centre, Car & Vehicle parks, effluent treatment and recycle plant,
2. , road network, peripheral drains, green buffer belt, site & street lighting, ESR, fire water system, borewell, ground water monitoring wells and plant fencing. The ISWM facility shall comply with the Solid Waste Management Rules, 2016.
3. Complete facility to have automatic operation and a PLC/Scada control from a central control station.
4. Centralized Material recovery facility for recovering recyclables out of the non biodegradable component of city waste with provisions for screening, manual sorting on a conveyor belt, magnetic separator, bailing, packing and storage facilities.
5. Biodegradable fraction shall be extruded, and converted into bio-gas/electricity using anaerobic bio-methanation technology. The residue/Sludge shall be composted using completely enclosed rotating in-vessel composting drums followed by storage, screening and bagging operation.
6. PP should comply with the terms and conditions as stipulated by the Goa State Pollution Control Board (GSPCB) while issuing Consent to Establish under the Air and Water Acts as well as Authorization issued under the Solid Waste Management Rules, 2016.
7. PP should prioritize the issues related to health and hygiene in complying with the matters related to waste disposal & treatment / air & water pollution / waste-water management.
8. PP should not disturb the natural drainage and as far as possible maintain the original topography while designing for landscape development by planting local site-specific plant species and which are not alien to the local environment. In any case, no varieties of *acacia* be used either as avenue plantations or as live-fencing.

9. PP should also submit half-yearly compliance report(s) in hard as well as soft copy format to the Authority for the period upto project completion so as to enable project monitoring during the construction phase.
10. All waste shall be handled under closed sheds with proper lighting and ventilation arrangement.
11. A separate storage shed shall be provided to store RDF, Recyclable & Compost.
12. A separate Tree Mulcher and shredder shall be added to mulch green cuts and garden waste.
13. A proper drainage system shall be provided to convey the wash water & spillage from the existing as well as from the proposed units of the facility, to the proposed ETP. There shall be no spill over of such effluent into the Storm water drain. The Storm water drain shall be specifically for the rain water system and it shall be free from any effluent / wash water at any point of time.
14. The project proponent shall ensure that the number of trucks carrying waste from the proposed waste catchments area and reaching the MSW processing facility shall be minimum in numbers. Transportation of wastes to be undertaken in closed trucks to ensure minimum number of trucks engaged to transport the waste.
15. Provision may be made for solar water heaters and solar power roof-tops facing towards South as well as south-facing walls to be effectively utilized to optimally harness solar energy. Further, considering the project-specific site, PP may necessarily explore the possibility of energy conservation by hybrid energy sources towards minimizing power requirements through national grid.
16. A Report on energy conservation measures conforming to energy conservation norms finalized by Bureau of energy Efficiency should be prepared incorporating details about building materials and technology, R & U factors etc and submit to the State Expert Appraisal Committee and a copy to GSPCB in three months time.

2. PP to follow General Conditions during construction Phase:

1. Water demand during construction shall be reduced by use of curing agents, super plasticizers and other best construction practices.
2. Project proponent shall ensure that surrounding environment shall not be affected due to construction activity.

3. Construction materials shall be covered during transportation and regular water sprinkling shall be done in vulnerable areas for controlling fugitive emission as per CPCB guidelines.
4. All required sanitary and hygienic measures shall be provided before starting the construction activities and to be maintained throughout the construction phase.
5. First Aid Box shall be complied in letter and spirit.
6. The PP shall strictly comply with the building and other construction workers (Regulation of Employment) & conditions of service Act 1996. Local bye laws of concern Authority shall be complied in letter and spirit.
7. Ambient noise levels shall conform to residential standard both during day and night. Incremental pollution load on the ambient air & noise quality shall closely be monitored during construction phase.
8. Use of Diesel Generator (DG) sets during construction phase shall be strictly equipped with acoustic enclosure and shall conform to the EPA rules for air and noise emission standards.
9. Safe disposal of sewage and municipal solid wastes generated during the construction phase shall be ensured.
10. All top soil excavated during construction activity shall be used in horticultural/ landscape development within the project site.
11. Excavated earth to be generated during the construction phase shall be utilized within the premises to the maximum extent possible and balance quality of excavated earth shall be disposed off with the approval of the competent authority after taking the necessary precautions of general safety and health aspects. Disposal of the excavated earth during construction phase shall create adverse effect on neighboring communities.
12. PP shall ensure use of eco-friendly building materials including fly ash bricks , fly ash paver blocks, ready Mix concrete (RMC) and lead free paints in the project.
13. Fly ash be used in the construction wherever applicable as per provisions of fly ash Notification under the EP Act, 1986 and its subsequent amendments from time to time, regular supervision of the above and other measures for monitoring should be in place all through the construction phase , so as to avoid disturbance to all surroundings.
14. Personal Protective equipments (PPEs) shall be provided to workers and its usage shall be ensured and supervised.
15. Adequate drinking water and sanitary facilities should be provided for construction workers at the site. Provision should be made for mobile toilets. The safe disposal of waste water and solid waste generated during the construction phase should be ensured.

A. Effluent Treatment Plant (ETP)

All the wastewater generated from various sources e.g. washing of floors/mobile machinery and centrate from sludge de-watering equipments etc. Shall be treated into the proposed Effluent Treatment Plant (ETP) comprising Ammonia Stripping System, Equalization, Physico-chemical

Treatment, Biological Treatment and Filtration System. The treated effluent shall be reused for cleaning, floor washing and gardening etc and the excess treated effluent shall be disposed to nearest STP. For disposal of treated effluent a separate disposal line from the proposed MSW facility to the nearest STP shall be provided. The plant shall have zero liquid discharge.

B. EMP during Operational phase

CMSWMF are recommended as follows:

- a) Regular monitoring of scrubbing system for purification of biogas provided by the equipment vendors prior to utilize in Biogas Genset, for power generation shall be should be monitored to ascertain for absence of SO₂ emissions.
- b) Biogas Genset and flare (during emergency condition) shall be operated with minimum excess air (controlled combustion using low NO_x burners), so that fuel combustion is optimized and emission of NO_x is minimized Ambient air quality with respect to PM₁₀, PM_{2.5}, SO₂, NO_x, Ammonia, VOCs and CO should be monitored regularly at different sampling stations selected in consultation with Goa SPCB within the impact zone.
- c) The sampling stations should be selected based on the maximum ground level concentration anticipated and keeping maximum stations in the downwind direction and at least one in the upwind direction Port holes and sampling facilities should be provided at proper location in all the stacks for monitoring of flue gas at regular intervals.
- d) A weather monitoring station shall be operated continuously and regular data logging shall be done.
- e) Proper moisture, oxygen and C:N ratio shall be maintained to minimize the odour and to maintain adequate temperature in compost plant .
- f) Green belt shall be provided along the internal roads and plant boundary.
- g) To control fugitive emissions of VOCs / Odors, over and above the inbuilt measures of Bio-Scrubbers provided by the vendor along with the plant equipment.
- h) Ground water monitoring as per SWM Rules 2016 and as per compliance to consent to operate to be issued from GSPCB.

C. Biological Environment

- a) Development of green belt with carefully selected (tolerant to air pollution) plant species is of prime importance due to their capacity to reduce noise and air pollution impacts by attenuation/assimilation and for providing food and habitat for local macro and micro fauna.
- b) For developing the greenbelt in and around proposed project site care need to be taken to plant the evergreen species. The planting of evergreen species Survival rate of the planted trees should be closely monitored and the trees may have certain advantages that may reduce the environmental pollution.

- c) The rainwater harvesting shall be practiced to the maximum possible extent which could not survive should be replaced by more tolerant species.
- d) Provision of land and adequate funds for strengthening of existing as well as additional plantation to create green belt of appropriate width as per CPCB guidelines should be made in the proposed project.
- e) Social awareness programme about the importance of conservation of flora and fauna need to be conducted. The tourists should be strictly warned to avoid throwing of non-degradable waste materials in the project area, so that ecosystem should not get harmed.
- f) Existing flora at site and in the quarries to be preserved to an extent possible and fencing to be provided around the quarry. However utilities with minimum damage to existing flora and fauna may be permitted.

D. Socio-economic Environment

- a) PP should undertake regular environmental awareness programs to bring forth the beneficial aspects of the projects and environmental management measures being undertaken for improving their Quality of Life.
- b) Social welfare activities should be undertaken by the project proponent in collaboration with the local bodies and the information regarding the project activity and its plans, social welfare programme etc. should be circulated in the form of booklets and shown as audio-visually.
- c) In order to improve socio-economic status in slum area, the PP should consider extending welfare measures to the local people under the community development programme.
- d) In order to minimize impact due to traffic conjunction, scheduling for the movement of vehicles should be done in order to avoid peak traffic condition, to the extent possible.
- e) Road side plantation on both side of the approach road to the project site may be undertaken by the project Proponent.
- f) Continuous Awareness & involvement of occupants and floating population in SWM shall be organized for total success

3. Further, the Authority decided to direct the PP to comply with the following “Specific Conditions” during post-construction phase:-

1. In view of the close proximity of the proposed facility to the Residential project the said facility of segregation and sorting etc should be established in completely enclosed shed with double doors and exhaust system with bio filters to control the odour.
2. The PP will ensure that there is at least one more access made available to the proposed site
3. The PP will ensure that the transportation of waste will be in closed trucks with leachate collection facility and minimum in numbers to the extent possible.

4. The mitigation measures for odour control. The mitigation measures proposed to minimise odour are as follows:
 5. Maintaining proper air and moisture in the compost plant area.
 6. Covering the landfill area under operation daily with layer of earth, clay or a similar material.
 7. Covering by using heavy duty hessian, plastics and foams
 8. After visual inspection of waste and weighing at Weighbridge, the waste shall be delivered to the dedicated bunkers for each type of waste. It shall be a totally enclosed structure with Entry/Exit of Garbage Compactors, Floor Washing Connections, Drainage System, Lighting, negative Ventilation and the exhaust air within the Facility is passed through bio filters for odour control.
- 2) PP shall ensure completion of ETP, solid waste disposal facility, secured landfill green belt development prior to occupation of the buildings. No physical occupation of allotment will be given unless all above said environmental infra structure is installed and made functional including water requirement prior certification from appropriate authority shall be obtained.
- 3) Wet garbage should be treated by organic waste convertor and treated waste (manure) should be utilise in the existing premises foe gardening or to be sold to farmers / fertilizer company or to be used for social forestry. And no wet garbage will be disposed outside the premises. Local authority should ensure compliance to this.
- 4) A complete set of all the documents submitted to Goa-SEIAA should be forwarded local authority, GSPCB and Planning authority.
- 5) In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by the Goa-SEIAA.
- 6) Separate funds shall be allocated for implementation of environmental protection measures /EMP along with item wise breaks-up. The funds earmarked for the environment protection measures shall not be diverted for other purposes.
- 7) A copy of the environmental clearance letter shall be sent by PP to the concerned Village Panchayat and planning authority as applicable, from which suggestions / representation, if any, were received while processing the proposal. The EC letter shall also be put on the company's website by PP within one week time period from date of issue of environmental clearance.
- 8) The PP shall upload the status of the compliance of the stipulated EC conditions, including results of monitoring data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF& CC, the respective Zonal

office, CPCB and the GSPCB. The pollutant levels in respect of SPM, RSPM, SO₂ and NO_x (*ambient levels as well as D.G. stack emissions*) shall be monitored.

- 9) The environmental statement for each financial year ending 31st March in Form-V is to be submitted to the GSPCB as prescribed under the Environment (*Protection*) Rules 1986 (as amended) and subsequently shall also be put on the company's website along with the status of the compliance of the EC conditions and shall also be sent to the respective Regional Office of the MoEF& CC.
- 10) Consent to Operate shall be obtained from GSPCB before operation, failing which the Environmental Clearance herein shall be deemed to be withdrawn.
- 11) Utilization of Diesel power generating sets is subject to power failure condition only. The DG sets proposed as a source of power back up during operation phase should be of enclosed type, low sulphur diesel run and conform to rules made under the Environment (Protection) Act, 1986. The DG sets should be subjected to periodic noise and stack monitoring in consultation with GSPCB. Waste/used diesel should be stored and managed as per the Hazardous and other Wastes (*Management & Transboundary Movement*) Rules, 2016 as amended.
- 12) Noise should be controlled to ensure that it does not exceed the prescribed standards both during day & night time.
- 13) The ground water drawl from existing/proposed bore wells if any should be done only with the prior permission of Ground Water Board. The ground water level and its quality should also be monitored regularly both during construction and operation phase in consultation with Ground Water Board.
- 14) Traffic congestion near the entry and exit points from the roads adjoining the project site must be avoided. Parking should be fully internalized and no public space should be utilized.
- 15) Energy Conservation measures such as solar lighting for common area, solar water heating system; LEDs for lighting of areas, LED lights for signage, solar inverters on the etc should be adopted.

16) E-waste should be used properly collected and disposed off/ sent for recycling as per the prevailing guidelines/rules of the regulatory authority as per E-Waste Management Rules 2016.

2. Compliances received from M/s **Santosh DnyandevKhadapkar** seeking Environmental clearance for mining lease area 1.74 ha for basalt stone quarry bearing survey no. 57/1, , Allorna -Ibrahmpur, Pernem,. The committee perused the said compliances and decided to re visit the site prior to take further decision in the matter.

The meeting ended with a vote of thanks to the chair.

Dr.PurushotamPednekar

_____ *Sd/-* _____

Dr. M.K. Janarthanam

_____ *Sd/-* _____

Dr. Nitin Sawant

_____ *Sd/-* _____

Sd/-
Shri. Sanjeev Joglekar)
(Secretary Goa-SEAC)

Sd/-
Shri. SuhasGodse
(Chairman Goa-SEAC)

Place: GTDC, Panaji

Date: November 2019