

**Minutes of the 104th Goa State Expert Appraisal Committee
(Goa-SEAC) meeting held on 23rd March 2019 at 4.30 pm. in the Conference Room of the
4th floor, GTDC, Patto-Panaji, Goa.**

The hundred and fourth meeting of the Goa-SEAC was held on 23rd March 2019 in the Conference room of the GTDC, Paryatan Bhavan, Panaji at 4.30 p.m. under the Chairmanship of Prof. Suhas Godse. The list of members who attended the meeting is at Annexure – Iö.

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

1. **Goa Waste Management cell** seeking Terms of References (ToRs) for setting up of a Common Bio-medical Waste Treatment Facility at Kundaim Industrial Estate. During 101st meeting the committee was of the opinion to redesign, remodelled and relocate to save trees and redesign the incinerators capacity to 300kg/hr based on present waste generation scenario and further make the presentation before the committee.

Accordingly officials from Goa Solid Waste Management Cell re-presented the detailed presentation before the committee.

Brief Details of the Project:

1.	Category/Item No. (In Schedule)	7 (d)(a)(CBWTF project)			
2.	Location of Project				
3.	Project Details Land use Break up	As under EIA Report (Chapter II)			
		S. No.	Particular	Area (sq.m)	%
		1.	Work shed & others	1860	18.60
		2.	Green Belt	3300	33.00
		3.	Paved	1000	10.0
		4.	Undisturbed Area	3840	38.4
		Total	10000	100	

<p>4.</p>	<p>Salient features regarding products and process in brief including plant capacity</p>	<p>Process Details : This is a "Common Bio-medical Waste Treatment Facility". Hence, there will be no product manufactured. Process flow chart is shown as below : Detailed description of the process is described in EIA Report (Chapter 2)</p> <div style="border: 1px solid black; padding: 10px; text-align: center;"> <p>FLOW CHART SHOWING THE WORK PROCESS OF PLANT</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Vehicle dispatched to designated route in morning with bins for collection of waste from HCEs as per route chart</p> </div> <pre> graph TD A[Vehicle dispatched to designated route in morning with bins for collection of waste from HCEs as per route chart] --> B((BMW collected from HCE's in Color coded bags with bar codes)) B --> C((Manifest copy handed over to HCE's)) C --> D((Vehicle Return to Plant after completion of routes)) D --> E[Unloading of bar coded bags, puncture proof containers at the floor Doctor's Certificate handed over to accounts for any human body parts] E --> F[Segregation of Bags Yellow bags for Incineration] F --> G[Autoclaving] F --> H[Incinerator fitted with APCD] G --> I[Shredding Autoclaved Glass, Plastics,] I --> J[Shredded material sent to Authorized Recycler] H --> K[Incinerated ash sent to secured landfill through TSDF] </pre> </div>
<p>5.</p>	<p>Raw Materials requirement (in case of more than one product raw material for each product should be specified)</p>	<p>This is "Common Bio-medical Waste Treatment Facility". Hence there will be no raw material requirement</p>

6.	Solid Waste Hazardous waste quantities and management	<p>Solid Waste/Hazardous Waste and its Management Disposal of Hazardous Waste will be through TSDF located nearby following the manifest as per hazardous and other waster (Management and Transboundary Movement) Rules. Plastic waste will not be sent to land fill sites Treated plastic waste will be sent to registered or authorized recyclers Encapsulation in metal container or cement concrete or sent for final disposal to iron foundries (having consent to operate from SPCB). Incineration ash will be disposed through hazardous waste treatment, storage and disposal facility (TSDF), if toxic or hazardous constituents are present beyond the prescribed limits as given in Schedule-II of the Hazardous and Other Waste Management & Transboundary Movement Rules or as revised from time to time.</p>																		
7.	Use of substances or materials which are hazardous	Bio-medical Waste																		
8.	Project Cost	The projected life of the project is 20 years. Total Cost of the project is estimated to be Rs. 12-13 crores																		
9.	Water Requirement & source	<p>The total water requirement of CBWTF is 10 KLD. The source of water is bore well within the site premises. The details of water requirement are provided below :</p> <table border="1" data-bbox="526 1035 1362 1308"> <thead> <tr> <th>Sr. No.</th> <th>Particulars</th> <th>Quantity (KLD)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Floor washing container washing etc.</td> <td>3.5</td> </tr> <tr> <td>2.</td> <td>Venture scrubber</td> <td>4.0</td> </tr> <tr> <td>3</td> <td>Domestic Use</td> <td>6.5</td> </tr> <tr> <td>4.</td> <td>Green Belt</td> <td>6.0</td> </tr> <tr> <td></td> <td>Total</td> <td>20.0</td> </tr> </tbody> </table>	Sr. No.	Particulars	Quantity (KLD)	1.	Floor washing container washing etc.	3.5	2.	Venture scrubber	4.0	3	Domestic Use	6.5	4.	Green Belt	6.0		Total	20.0
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10.	Fuel & Energy	<p>The details of power requirement for the project are provided below</p> <table border="1" data-bbox="526 1371 1362 1493"> <thead> <tr> <th>Power Requirement</th> <th>Source</th> </tr> </thead> <tbody> <tr> <td>40 KW</td> <td>--</td> </tr> <tr> <td>20 kVA Diesel Generator (standby)</td> <td>--</td> </tr> </tbody> </table> <p>The fuel requirement for various equipment of the project is provided below :</p> <table border="1" data-bbox="561 1635 1362 1757"> <thead> <tr> <th>Particular</th> <th>Quantity (Litres/Day)</th> </tr> </thead> <tbody> <tr> <td>DG Set</td> <td>50 - 60litres/Day</td> </tr> </tbody> </table>	Power Requirement	Source	40 KW	--	20 kVA Diesel Generator (standby)	--	Particular	Quantity (Litres/Day)	DG Set	50 - 60litres/Day								
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11.	Environmental Management Plan along with Budgetary breakup	Environment Management Plan Budget is Rs. 158 lakhs and recurring cost is Rs. 12.5.0 lakhs				
12.	CSR Activities along with budgetary breakup	The total project cost is Rs. 12. crores and as per CER office memorandum, May 2018; a total amount of Rs. 14.0 lakhs will be spent of CER activities. The detailed break-up for the same is listed below :				
		Sr. No.	Facilities to be provided	Activities to be done by PP	Total Expenditure (Rs. in lac)	Activity area
		A.	Education (Government School)	Construction, maintenance and repair of rooms Construction of Toilet Computer lab with equipment Renovation of existing school building and ancillary works Plantation in the school premises and nearby areas	10.0	Nearby areas in 10 km radius of the project
		B.	Swacch Bharat Abhiyan	Construction of toilets in the nearby areas	2.0	Nearby areas in 10 km radius of the project
		C.	Human Welfare	Organizing medical and health checkup camp in nearby villages. Distribution of blankets	1.0	Nearby areas 10 km radius of the project
		D.	Community Development	Development of mokshdham	1.0	Nearby areas in 10 km radius of the project
		Total			14.0	
		Total of Rs. 14.0 lakhs will be provided under the CER (All activities will be done in consultation with gram panchayat or any other Govt. Aency/body)				
13.	ETP	Yes				

14.	Green Belt / Plantation	(33.0 %) 33.0 sq.m.
15.	Budgetary Breakup for labour	Workers from the local villages will be hired, housing facilities will be available at the project and all the basic facilities, drinking water, sanitation, resting room etc. will be provided

The Committee after going through the presentation decided to recommend the said proposal to the Authority for grant of Environmental Clearance with following conditions;

A.1 SPECIFIC CONDITION:

1. All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report of the project submitted by project proponent vide commitments made during presentation before SEAC and proposed in the EIA report shall be strictly adhered to in letter and spirit.
2. The unit shall strictly comply with the CPCB guidelines for setting up the Common Bio-Medical Waste Treatment Facility. (CBWTF)
3. Proponent shall strictly comply the design criteria for incinerator, autoclave and shredder as per the CPCB guidelines.
4. The unit shall strictly setup the dry technology system.
5. The unit shall strictly ensure mercury waste management at health care facility as per the CPCB guidelines.
6. The unit shall establish Standard operating Procedure for waste collection, handing transportation, treatment and disposal as per Biomedical Waste Management Rules 2016.
7. Zero Liquid Discharge (ZLD) status shall be maintained all the time.
8. There shall be no drainage connections from the premises.

A.2 CONSTUCTION PHASE

9. Water demand during construction shall be reduced by use of curing agents, super plasticizers and other best construction practices.
10. Project proponent shall ensure that surrounding environment shall not be affected due to construction activity.
11. Construction materials shall be covered during transportation and regular water sprinkling shall be done in vulnerable areas for controlling fugitive emission.
12. All required sanitary and hygienic measures shall be provided before starting the construction activities and to be maintained throughout the construction phase.
13. First Aid Box shall be complied in letter and spirit.
14. 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.

15. 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.
16. 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.
17. Safe disposal of sewage and municipal solid wastes generated during the construction phase shall be ensured.
18. All top soil excavated during construction activity shall be used in horticultural/ landscape development within the project site.
19. 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.
20. 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.
21. 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.

3. Operation Phase:

22. Consent to operate shall be obtained from GSPCB under the Air (Prevention & control of Pollution) Act, 1981 and water (Prevention & control of Pollution) Act 1974 before operation, failing which the Environment Clearance herein shall be deemed to be withdrawn.
23. Authorization from Goa Pollution Control Board shall be obtained as applicable under Bio Medical Waste Management Rules 2016.
24. The bio medical wastes shall be managed in accordance with the Bio medical waste Management Rules 2016.
25. Incinerated ash, used oil, sludge salt treated bio medical waste and ETP sludge should be disposed in accordance with BMW Rules, 2016.
26. The PP shall comply with the Environmental standards notified by MOEF & CC for incinerators along with the technology/guidelines.
27. Guidelines published by the Central pollution Control board from time to time for common bio medical waste treatment published shall be referred for implementation.
28. There should not be any spillage from the transportation vehicles.
29. The PP will set up separate environmental management cell for effective implementation of stipulated environmental safeguards under the supervision of senior executive.

30. All the recommendations of EMP shall be strictly complied.
31. The environmental safeguards containing the EIA report shall be implemented in letter & spirit.
32. Necessary provision shall be made for firefighting facilities within the complex.
33. Treated flue gas emissions discharged through stack to atmosphere shall always be less than the specific emission standards.
34. PP shall ensure regular operation and maintenance of the ETP and printed logbook shall be maintained.
35. All the pipelines carrying water/waste water should be distinguished using colour coding on raw water pipes and re use lines of treated water.
36. 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 confirm to rules made under the environment (Protection act 1986. The DG sets should be subjected to periodic noise and stack monitoring.
37. 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.
38. Energy conservation measures such as LED light for common lighting of areas , signage etc should be adopted.
39. The unit shall develop 33% of plot area as a green belt within premises as per the CPCB guidelines.
40. Total water requirements for the project shall not exceed kg/day. Unit shall reuse KL/day of treated waste water for lime slurry preparation for quenching process as well as floor and vehicle washing. Hence, fresh water requirement shall not exceed KL/day and it shall be met through PWD water supply only. Prior permission from the concerned authority shall be obtained for withdrawal of water.
41. Water meter shall be installed and its record of daily water consumptions shall be maintained.
42. No ground water shall be tapped for the project requirements.
43. The industrial effluent generation from the project shall not exceed Kl/day.
44. Waste water generation from floor washing, vehicle washing and autoclaving (4.6/L/day) shall be treated in proposed ETP. (Cap.10.0 KL/Day).
45. Entire quantity of treated waste water shall be reused for individual purpose within the premises after conforming the (GSPCB) norms.

46. The unit shall provide adequate effluent treatment plant (ETP) comprises of Primary, tertiary treatment plants and it shall be operated regularly and efficiently so as to ensure for quenching process.
47. Separate energy meter shall be provided at ETP. A proper operation logbook of the ETP containing records of quantities and qualities of treated effluent.
48. The domestic wastewater generation shall not exceed KL/day for proposed project and it shall be disposed off into soak pit system.
49. The Zero wastewater discharge condition to be achieved with utilizing treated effluent for lime slurry preparation for spraying in reactor for quenching process as well as floor and vehicle washing.
50. The Project proponent shall provide electromagnetic flow meter at the inlet & outlet of the water supply, Inlet & Outlet of the ETP and shall maintain a record of readings of each such meter on daily basis.
51. The quantity of fresh water usage and water recycling shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the GPCB, State Level Environment Impact Assessment Authority & Regional Office, MoEF & CC along with six monthly monitoring reports.

A.5 AIR:

52. Natural gas to the tune of 100 SCM/hr shall be used as fuel for Incinerator.
53. Unit shall provide Lime Reactor, Air cooled gas cooler, Sodium Carbonate injection, Activated carbon injection system and Bag Filter with adequate stack height as APCM within incinerator.
54. Regular monitoring of ground level concentration of PM10, PM2.5, NOx and VOC shall be carried out at the site and downwind direction and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the CPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately.
55. Proponent shall strictly follow the odour control measures as suggested in environmental management plan.
56. Proponent shall strictly follow the Environmental Monitoring Program (EMP) for ambient Air Quality Monitoring (AAQM).
57. Treated flue gas emissions discharged through stack to atmosphere shall always be less than CPCB stipulated emission standards.
58. Diesel to the tune 55Lit./hr shall be used in the stand-by DG set(Cap.150 KVA).

59. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution and shall conform to the EPA Rules for air and noise emission standards.
60. A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive 7 transport dust emission.

A.6 SOLID/HAZARDOUS WASTE:

61. The company shall strictly comply with the rule and regulations with regards to handling and disposal of Hazardous waste in accordance with the Hazardous and Other wastes (Management and Transboundary Movement) Rules 2016, as may be amended from time to time. Authorization of the GPCB shall be obtained for collection/treatment/storage/disposal of hazardous wastes.
62. Hazardous wastes shall be dried, packed and stored in separate designated hazardous waste storage facility with pucca bottom and leachate collection facility, before its disposal.
63. Incinerator Ash, ETP sludge & salt sludge (From reactor) shall be disposed off at the nearby common TSDF.
64. Treated Biomedical plastic waste shall be sold out to GPCB authorized recycle only.
65. Used oil shall be either reused for lubrication in plant machineries or sold out to registered recycles.
66. Discarded container/bags shall be either reused or sold only to the authorized recyclers.
67. Treated glass waste shall be sold out to GPCB authorized recycler only.
68. Sharp waste shall be disposed through in-house designated concrete sharp pit and disposal to sanitary landfill.
69. The unit shall obtain necessary permission from the nearby TSDF site.
70. Trucks/Tankers used for transportation of hazardous waste shall be in accordance with the provisions under the Motor Vehicle Act, 1988 and rules made there under.
71. The design of the Trucks/tankers shall be such that there is no spillage during transportation.
72. All possible efforts shall be made for Co-Processing of the Hazardous waste prior to disposal into TSDF/CHWIF.
73. Management of fly ash (If any) shall be as per the Fly ash Notification 2009 & its amendment time to time and it shall be ensured that there is 100% utilization of fly ash to be generated from the unit.

A.7 SAFETY

74. The occupier/manger shall strictly comply the provisions under the Factories Act 1948.
75. The project authorities shall strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules (MSIHC) 1989, as amended time to time and the Public Liability Insurance Act for handling of hazardous chemicals etc. Necessary approvals from the Chief Controller of Explosives and concerned Govt. Authorities shall be obtained before commissioning of the project. Requisite On-site and Off-site Disaster Management Plans have to be prepared and implemented.
76. Main entry and exit shall be separate and clearly marked in the facility.
77. Sufficient peripheral open passage shall be kept in the margin area for free movement of fire tender/emergency vehicle around the premises.
78. Sufficient number of fire extinguishers shall be provided near the plant and storage area.
79. All necessary precautionary measures shall be taken to avoid any kind of accident during loading, unloading and transportation of biomedical waste.
80. The project management shall ensure to comply with all the environment protection measures, risk mitigation measures and safeguards mentioned in the Risk Assessment report.
81. Only flame proof electrical fittings shall be provided in the plant premises.
82. All the waste storage room shall be marked with colour coding as per the CPCB guidelines time to time.
83. Proponent shall tie up with nearby health care facility for any emergency cases.
84. Personal Protective equipments (PPEs) shall be provided to workers and its usage shall be ensured and supervised.
85. First Aid Box in the unit shall be made readily available in adequate quantity.
86. Training shall be imparted to all the workers on safety and health aspects of biomedical waste handling.
87. Occupational health surveillance of the workers shall be done and its records shall be maintained. Pre-employment and periodical medical examination for all the workers shall be undertaken as per the Factories Act & Rules.
88. Transportation of biomedical waste shall be done as per the provisions of the Motor Vehicle Act & Rules.

89. The company shall implement all preventive and mitigation measures suggested in the Risk Assessment Report.

A.8 NOISE:

90. The Overall noise level in and around the plant area shall be kept well within the standards by providing noise control measures including engineering controls like acoustic insulation hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise level shall conform to the standards prescribed under The Environment (Protection) Act, 1986 & Rules.

A.9 GREEN BELT AND OTHER PLANTATION:

91. The Unit shall develop green belt within premises as per the CPCB guidelines. However, if the adequate land is not available within the premises, the unit shall take up adequate plantation on road sides and suitable open areas in GIDC estate or any other open areas in consultation with the GIDC/GPCB and submit an action plan of plantation for next three years to the GPCB.

92. Drip irrigation/low-angle sprinkler system shall be used for the green belt development within the premises.

A.10 OTHER CONDITIONS

93. Rain water recharging of surface as well as rooftop runoff shall be undertaken and the same water shall be used for the various activities of the project to conserve fresh water as well as to recharge ground water. Before recharging the surface runoff, pre-treatment must be done to remove suspended matter.

94. The unit shall join and participate financially and technically for any common environmental facility I infrastructure as and when the same is taken up either by the GSIDC or any such authority created for this purpose by the Govt.

95. The area earmarked as green area shall be used only for plantation and shall not be altered for any other purpose.

96. All the commitments I undertakings given to the SEAC during the appraisal process for the purpose of Environmental Protection and Management shall be strictly adhered to.

97. The project proponent shall also comply with any additional condition that may be imposed by the SEAC or the SEIAA or any other competent authority for the purpose for the environmental protection and management.

98. In the event of failure of any pollution control system adopted by the unit, the unit shall be safely closed and shall not be restarted until the desired efficiency of the control equipment has been achieved.
 99. The project authorities must strictly adhere to the stipulations made by the Goa Pollution Control Board (GSPCB) state government and any statutory authority.
 100. During biomedical waste unloading there shall be no spillages and garland drain shall be constructed to avoid mixing of accidental spillages with domestic wastewater or storm water.
 101. Pucca flooring impervious layer shall be provided in the work areas, biomedical waste storage areas and chemical handling areas to minimize soil contamination.
 102. No further expansion or modifications in the plant likely to cause environmental impacts shall be carried out without obtaining prior environmental Clearance from the concerned Authority.
 103. The above conditions will be enforced, inter alia under the provisions of water (Prevention & Control of Pollution) Act 1974, air (Prevention & Control of Pollution) Act 1981, the Environment Protection Act 1986, Hazardous & other Wastes (Management & Transboundary Movement Rules, 2016 and the Public Liability Insurance Act 1991 along with their amendments and rule.
2. Project specific presentation by Info Tech Corporation of Goa Limited for environmental clearance for hybrid Cluster at survey no. 128/1-C & 172/1-P of village Penha de Franca, Bardez, Goa.

Background: This office is in receipt of an application dated 28/02/2019 from Info Tech Corporation of Goa Limited for Environmental Clearance for hybrid Cluster at survey no. 128/1-C & 172/1-P of village Penha de Franca, Bardez, Goa. Accordingly Goa óSEAC (Committee) conducted site inspection on 03/02/2019. Subsequently official from M/s Aditya environmental services made the project-specific presentation on behalf of PP. After detailed presentation by the PP committee sought following compliances:

1. Note on proposed 700 parking sufficient for so many visitors.
2. Whether existing access from main road will continue or alternate arrangements will be made.
3. Area statement needs correction.
4. Minimum 2 gates each on either side with one towards highway and the second towards the service road.

5. What is the setback from existing highway?
6. What is the area for composting facility?
7. UV or ozonator for treated STP water for flushing.
8. Storm water drainage plan with runoff calculation as the present road is on a drain.
9. vertical garden.
10. charging points for electric vehicles in parking.

C. Project specific presentation by Hotel project Matrix in CRZ area, Varca, Salcete, Goa.

1. BUA more than 20 000sq mts.
2. Are the survey nos included in the vacant plot identified for hotels as per High Court order of 2006.
3. Ozonator /Uv treatment for flushing.
4. Sand dune wooden elevated access in NDZ.
5. The swimming pool to be shifted by at least 3 mts toward landward side.
6. Examination of tree species for plantation suggested by members.
7. Storm water drainage plan.

The meeting ended with vote of thanks to the Chair.

Dr. Purushottam Pednekar _____ *Sd/-* _____

Dr. Nitin Sawant _____ *Sd/-* _____

Dr. N. Janarthanam _____ *Sd/-* _____

Sd/-

Shri. Sanjeev Joglekar)

(Secretary Goa-SEAC)

Sd/-

Shri. Suhas Godse

(Chairman Goa-SEAC)

Place: Patto, Panaji, Goa.

Date: March 2019

ANNEXURE – I

List of members who attended the 104th Goa –SEAC meeting held on 23rd March 2019

1. Shri. Suhas Godse, Taleigao - *Chairman (Goa-SEAC)*
2. Dr. Purushottam Pednekar, Mapusa - *Member (Goa-SEAC)*
3. Dr. Nitin Sawant, Porvorim - *Member (Goa-SEAC)*
4. Dr. N. Janarthanam - *Member (Goa-SEAC)*
4. Shri. Sanjeev Joglekar, Panaji - *Secretary (Goa-SEAC)*