

**MINUTES OF THE 30th MEETING OF
THE STATE EXPERT APPRAISAL COMMITTEE (SEAC)
CONVENED ON 10.05.2022.**

The 30th meeting of SEAC was convened at the Department of Science, Technology and Environment, Anna Nagar, Puducherry under the Chairmanship of Dr. B. Kumaran. The list of members attended is enclosed as Annexure – I.

Agenda Item No. I: Confirmation of the Minutes of the 29th Meeting of SEAC convened on 15th and 16th March, 2022.

The Committee confirmed the minutes of the 29th meeting of SEAC held on 15th and 16th March 2022.

Agenda Item No. II: Examination of project proposals under the provisions of the EIA Notification, 2006 and its subsequent amendments for onward appraisal to SEIAA for further examination to consider issue of Environmental Clearance (EC).

1. Proposal for Environmental Clearance (EC) submitted by M/s. Chemfab Alkalis Karaikal Limited, Karaikal for Establishment of New Chlor-Alkali Plant - Caustic Soda and Allied Products.

The project proponent and the accredited consultant made a detailed presentation on the salient features of the project proposal and informed that they are seeking Prior Environmental Clearance for establishment of New Chlor-Alkali plant - Caustic Soda and Allied Products at PIPDIC Growth Centre-Polagam, Karaikal District. The following representatives were present on behalf of the project proponent:

- i) Mr. V.R. Raguraman, Vice President, Chemfab Alkalis Karaikal Limited, Karaikal.
- ii) Mr. Samuel Victor, General Manager – Projects, Chemfab Alkalis Karaikal Limited, Karaikal.
- iii) Mr. Parth Malavia, Consultant and Functional Area Expert, Eco Chem Sales & Services, Surat.

Project details are as under:

Name of the Project	Establishment of New Chlor-Alkali plant - Caustic Soda and Allied Products at PIPDIC Growth Centre, Polagam, Karaikal District, Puducherry by M/s. Chemfab Alkalis Karaikal Limited.
Project Location	Plot Nos. 105, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125 & 126, PIPDIC Growth Centre, Polagam, Thirumalairayanpattinam, Karaikal – 609606, Puducherry U.T.

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Project Description – Product & Capacity	S. No	Product Name	Proposed Capacity	
			TPD	TPA
	1	Caustic Soda (at Concentration of 32%, 48% and Flakes)	295	107675
	2	Liquid Chlorine	261	95400
	3	Hydrogen (Million Cubic meter)	7.375 (0.0826)	2691.8 (30.149)
	By Products			
	1	Hydrochloric Acid (100% Basis)	100	36500
	2	Sodium Hypochlorite (100%)	11	4015
	3	Soda Ash Lye (100% Basis)	4	1460
	4	Anhydrous sodium sulphate	3	1095
	5	Sludge Brick (Nos/day)	3000	1095000
	6	Dilute Sulphuric Acid (78%)	8	2920
Total land area	263002.46 Sq.m (65 Acres)			
Green belt area	89892.15 Sq.m. (34.18 %)			
Manpower	Stage	Permanent (No.)	Temporary (No.)	Total (No.)
	Construction	10	290	300
	Operation	200	200	400
Power requirement	32 MW			
Source of power	Puducherry Electricity Department			
Power backup	2 x 1250 KVA DG Set			
Water Source	Construction Phase: Private Tankers Operation Phase: Sea Water Desalination Plant.			
Water requirement				
Water	Capacity (KLD)			
	Fresh	Recycle	Total	
Domestic & Canteen	18	0	18	
Caustic Soda	420	52	472	
HCL (including AAC)	156	61	217	
Hypo	33	0	33	
Cooling	628	0	628	
Greenbelt	202	16	218	

DM Plant	26	325	351
Total	1483	454	1937

Waste Water Generation:

S. No	Type of waste water	Proposed (KLD)	Method of Disposal
1.	Effluent	62	Effluent of 62 KLD generated from various sources viz., Boiler Blow down, Cooling Tower Blow down, process regeneration will be processed through ETP followed by RO and the rejects from the RO will treated through MEE. The condensate will be recycled back and salt from centrifuge will be disposed to TSDF.
2.	Sewage	16	Will be treated through 20 KLD STP. Treated sewage will be used for Greenbelt.

During Construction stage, sewage will be treated through Packaged STP and Treated sewage will be reused for Green belt development.

Air Emissions

i) Utilities

Source	Fuel used	APC	Stack Details	
			No. of Stacks	Height (m)
2 x 1250 kVA	204 LPH (HSD)	Stack	1	12
Boiler 5TPH	6.6 TPD (LNG) or 6.8 KLD	Stack	1	33
TFH 30LKcal/hr	6.4 TPD (LNG) or 6.5 KLD	Stack	1	30
Flaker molten salt 36LKcal/hr	7.7 TPD (LNG) or 7.9 KLD	Stack	1	30

ii) Process Emission with APC measures

Source	APC	Stack Details	
		No. of. Stacks	Height (m)
HCL Stack	Alkaline Wet Scrubber with Stack (individual)	1	35
Sodium Hypochlorite Stack		1	15
FENPS Stack		1	15

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Solid Waste				
S. No.	Waste	Proposed (Kg/day)	Total (Kg/day)	Method of disposal
1.	Organic	108	108	Insitu composting or Organic Waste Convertor
2.	Inorganic	72	72	Authorized Recyclers
Hazardous Waste				
Heading as per HWM Rules	Sub-heading	Quantity		Mode of disposal
		TPA		
5 - Industrial operations using Mineral / Synthetic oil as lubricant in hydraulic system	5.1 Used oil / Spent oil	8.00 TPA		Shall be stored in barrels and kept on the concrete floor and disposed through the Authorized vendor recyclers/ reprocessor.
5 - Industrial operations using Mineral / Synthetic oil as lubricant in hydraulic system	5.2 Oil soaked cotton waste	2.0 TPA		
Schedule I /35. Purification and treatment of exhaust air/gases, water and waste water from the processes in this schedule and common industrial effluent treatment plants (CETP's)	35.3 Salt from MEE	219 TPA		Shall be disposed to authorized TSDF.
Project Cost	Rs. 350 Crores			
EMP Cost	Capital Cost - Rs. 4.50 Crores Recurring Cost / Annum - Rs. 2.42 Crores.			
CER Cost	Rs. 75 Lakhs			

The project/activity is covered under Category B of item 4 (d) 'Chlor alkali industry' of the schedule to the Environment Impact Assessment (EIA) Notification, 2006. As per O.M No. J-13012/12/2013-IA-II(I) dated 24.12.2013 the project is categorised as Category B2, not requiring TOR, Public Hearing and EIA Report.

SEAC noted that the project proponent had obtained the Consent to Establish from PPCC for manufacturing of non-EÇ product such as Anhydrous Aluminium Chloride (10950 TPA) and By-products such as Sodium Hypochlorite Solution 110 gpl (985.5 TPA) and Aluminium Chloride Solution-5% conc. (2971.1 TPA) vide Consent Order No.

R21KAR581503/2022/27 dated 05.01.2022 which is valid up to 04.01.2027 in the same premises.

SEAC noted that manufacturing of Chlor alkali is carried out through membrane technology which has low environmental impacts. However, in view of the hazardous nature of the industrial activity the committee recommended that the unit should implement stringent safety measures, especially, with respect to handling of Chlorine. The Project proponent stated that they will be installing automatically activated Fully Enclosed Negative Pressure Scrubbing (FENPS) System at all strategic locations of chlorine handling viz., Liquefier, cylinder filling area and storage bullets for containing chlorine leakage, if any.

Project Proponent stated that water requirement will be met from the stand-alone desalination plant which is proposed to be installed at about 3.5 Kms away from the industrial site. Project Proponent will be obtaining necessary CRZ Clearance for the desalination plant from MoEFCC separately. SEAC instructed that the Chlor-Alkali plant shall not be commissioned until required CRZ clearance for the stand-alone Desalination Plant is obtained from the Ministry.

SEAC deliberated the proposal and made due diligence in the process as notified under the provisions of the EIA Notification 2006, as amended from time to time and accordingly decided to recommend the proposal for Environmental Clearance subject to the following conditions given below:

I. Specific conditions

- i) This clearance is issued under the provisions of the EIA Notification, 2016. All other statutory clearances as applicable to the project shall be obtained by the project proponent from the concerned competent authority including the Consent to Establish and Operate for the proposed plant from the Pudukcherry Pollution Control Committee (PPCC) and PESO certificate.
- ii) The pollution and control measures with regard to waste water treatment and disposal, air and noise pollution control measures, hazardous waste and solid waste management and all risk mitigation measures shall be strictly implemented as per the Environmental Management Plan submitted by the project proponent and in consonance with existing rules and regulations.
- iii) The water requirement for operational phase of the plant shall be fully met from stand-alone desalination plant proposed by the project proponent. The Chlor-Alkali plant shall not be commissioned until required CRZ clearance for the stand-alone desalination plant is obtained from MoEFCC.
- iv) Environment and Safety Audit shall be carried out in different operating zones of the plant at least once in a year and the adequacy of environmental safeguards and plant / occupational safety shall be reviewed and necessary corrective measures shall be taken.
- v) Off-site Emergency Plan shall be prepared and implemented in consultation with the District Administration.

- vi) The project proponent shall continuously monitor ambient chlorine levels and implement automatic alarm and control systems.
- vii) A separate Environment Management Cell (having qualified persons with Environmental Science / Engineering / Management specializations) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.
- viii) As per the MoEFCC OM dated 30.09.2020 superseding the OM dated 01.05.2018 regarding the Corporate Environmental Responsibility, the project proponent shall allocate an amount of Rs. 75 Lakhs towards environment conservation and community welfare activities, which shall be utilized over a period of five years. The said amount shall be utilized for activities like infrastructure creation for drinking water supply, sanitation, health, education, skill development, roads, cross drains, electrification including solar power, solid waste management facilities, scientific support and awareness to local farmers to increase yield of crop and fodder, rain water harvesting, soil moisture conservation works, avenue plantation, plantation in community areas, etc. within the project area. The project proponent shall prepare a separate project report on the proposed environment conservation and community welfare activities in consultation with the District Collector and after duly studying the needs of the surrounding villages. Copy of the CER project report shall be submitted to the District Collector, SEIAA, PPCC and Regional Office of MoEFCC. The activities shall be implemented in a time bound manner in consultation with the District Collector. The project progress report shall be submitted to the SEIAA, PPCC and Regional Office of MoEFCC as a part of the half yearly compliance report. The above fund allocated towards environment conservation support activities is to be in addition to the cost envisaged under the CSR budget of the company which will be allocated as per the rules prescribed by the Government of India / Companies Act 2013.

II. Statutory compliance

- i) 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 PPCC and shall submit copy of the same to SEIAA, Puducherry.
- ii) The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time from PPCC.
- iii) The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 and the Factories Act, 1948 as amended from time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989 as amended from time to time.

III. 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 the data to be transmitted to PPCC and CPCB online servers. This system shall be calibrated from time to time according to equipment

supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

- ii) Chlorine sensors shall be provided at 39 strategic points as mentioned in the EMP to monitor ambient chlorine levels. The sensors shall be coupled to automatic alarm and control systems.
- 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. PM₁₀ and PM_{2.5} in reference to PM emission, and SO₂ and NO₂ in reference to SO₂ and NO₂ 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. Process specific release like Cl₂ and HCl mist shall also be monitored.
- iv) All liquid raw materials and intermediates shall be charged into Reactors with pumps or under gravity through closed pipes to avoid fugitive emissions.
- v) All vents of holding tanks and dosing vessels shall be connected to a Vent Scrubber system comprising of a suction Blower, Alkali Scrubber and before venting through a tall stack.
- vi) All process emissions shall be passed through properly designed scrubber and finally released in to atmosphere through adequate stack height.
- vii) Vents of HCl storage tanks shall be provided with water filled trap to prevent Acid fumes from escaping out.
- viii) All pumps handling hazardous chemicals shall be provided with mechanical seals to prevent fugitive emission. Wherever possible magnetically coupled pumps shall be used.
- ix) To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and / or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB / PPCC guidelines.
- x) The DG sets shall be equipped with suitable pollution control devices and adequate stack height so that the emissions are in conformity with the extant regulations and the guidelines in this regard.
- xi) The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 and amendment from time to time shall be complied with.

IV. Water quality monitoring and preservation

- i) The project proponent shall install surveillance system with industrial grade IP (Internet Protocol) cameras having PAN, Tilt, Zoom (PTZ) with leased line real time connection for data streaming and transmission of the same. Flow meters shall be installed at inlets and outlets of ZLD. All the data shall be transmitted to CPCB and PPCC online servers.



- ii) As committed by the project proponent, Zero Liquid Discharge shall be ensured and treated effluent shall be completely reused within the plant. Guidelines issued by CPCB on Continues Emission Monitoring Systems (CEMS) from time to time shall be complied with.
- iii) The sewage generated shall be treated in suitable Sewage Treatment Plant and reused for gardening within the premises after conforming to the standards prescribed under the Environment (Protection) Rules, 1986 or as specified by the Puducherry Pollution Control Committee while granting Consent under the Water Act, whichever is more stringent.
- iv) Total fresh water requirement for plant operation shall be met from desalination plant. Prior permission shall be obtained from MoEFCC under CRZ Notification in this regard.
- v) Process effluent/any wastewater shall not be allowed to mix with storm water. The storm water from the premises shall be collected and discharged through a separate conveyance system.
- vi) The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial operations within the plant.

V. Noise monitoring and prevention

- i) Acoustic enclosure shall be provided to DG set for controlling the noise pollution.
- ii) The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc., on all sources of noise generation.
- iii) The ambient noise levels should conform to the standards prescribed under Environment (Protection) Rules, 1986 viz., 75 dB(A) during day time and 70 dB(A) during night time.

VI. Energy Conservation measures

- i) The energy sources for lighting purposes shall preferably be LED based or advanced energy efficient lighting systems.
- ii) 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.

VII. Waste management

- i) Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm and the solvent transfer through pumps.

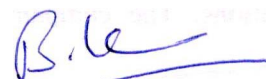
- ii) Hazardous wastes like Used Oil / Spent Oil, Oil-Soaked Cotton Waste and MEE Salt shall be disposed off to the cement plants for co-processing, reprocessing units or TSDFs after obtaining necessary Hazardous Waste Authorization from PPCC.
- iii) The company shall periodically review their operations and undertake waste minimization measures.
- iv) Organic solid waste shall be composted / treated in organic waste convertor or bio-digester and used as manure. Inorganic solid waste shall be disposed for recycling.

VIII. Green Belt

- i) The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Native species shall be planted in the green belt. Selection of plant species shall be as per the CPCB guidelines in consultation with the Forest Department. Suitable plants and trees that are pollution indicators shall also be planted around factory.

IX. Safety 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) Following safety features shall be implemented in chlorine handling:
 - a) All Chlorine sections shall be under stringent control and equipped with necessary chlorine handling facilities and manned by trained personnel.
 - b) Chlorine storages shall be subjected to periodic inspection and certification by approved agency.
 - c) Each storage shall be connected to the Hypo Plant for safe venting of Chlorine during Emergency.
 - d) Double Valve System shall be adopted in all Chlorine storages
 - e) Two Safety Relief Valves shall be installed in Each Chlorine Storage.
 - f) FENPS System and Water Curtain around the Liquefier section, Chlorine filling area and Chlorine storage bullets shall be provided which gets automatically activated at 0.5 ppm of Chlorine.
 - g) Emergency Suction Hoods shall be provided near the Chlorine Filling Stations for Emergency Evacuation.
 - h) Excess Flow Check Valve shall be provided in Liquid Chlorine Line as a safety measure.
 - i) Remote operation for transfer of Liquid Chlorine From one storage to another from Control Room in case of emergency.
 - j) One Chlorine storage bullet shall always be maintained empty to facilitate transfer during emergency.
 - k) Sodium Hypo Plant shall be fully operational.
 - l) Additional Chlorine Leak Detectors shall be provided inside each filling cabin.
 - m) Filling of Liquid Chlorine into Tonners shall be through Automatic Weighing System which cuts off Chlorine supply based on preset value.
 - n) Excess filling in cylinders as well as filling of test due cylinders shall be prevented by specially designed software with cylinder status tracking.
 - o) Two Emergency Stop Switches shall be provided to stop filling in case of emergency.



- p) Emergency Blower with Suction Hoods shall be provided in all the Chlorine Filling Points.
- q) Expansion Vessel with Rupture Disc shall be provided in the Liquid Chlorine Line as a Safety Measure.
- iii) Following safety features in Hydrogen Handling:
 - a) All safety interlocks and relief valves shall be tested at regular intervals.
 - b) GPRS shall be installed in Hydrogen trucks to closely monitor their movement.
 - c) Hydrogen Leak Detectors and Flame Sensors shall be installed at strategic locations in the Hydrogen Bottling Plant and connected to DCS.
 - d) Emergency shut system for hydrogen filling operation shall be in place.
 - e) Fire monitors and fire hydrants points shall be provided in and around the plant.
 - f) Water sprinkler system shall be provided at hydrogen bottling plant.
- iv) Proper emergency shutdown procedure shall be put in place for all the plant operations.
- v) The unit shall make arrangement for protection of possible fire hazards during manufacturing process and material handling. Firefighting system shall be as per norms.
- vi) Personal Protection Equipment (PPE) shall be provided as per the norms of Factories Act.
- vii) Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis.
- viii) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- ix) Occupational Health Centre with adequate facilities shall be established within the premises for emergency first aid and care.
- x) The project proponent shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 with reference to preparation of safety report, safety audit report, onsite emergency plans, offsite emergency plans, conduct of mock drills and submission of reports.
- xi) There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products, and no parking to be allowed outside on public places.

X. Corporate Environment Responsibility

- i) The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe standard operating procedures to have proper checks and balances and to bring into focus any infringements / deviation / violation of the environment / 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 as a part of half yearly compliance report.

- ii) 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.
- iii) 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 SEIAA, PPCC and Regional Office of MoEFCC along with the Six-Monthly Compliance Report.
- iv) 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, 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 (Industries Department and PPCC) who in turn has to display the same for 30 days from the date of receipt.
- iii) No further expansion or modifications in the plant shall be carried out without prior Environmental Clearance from SEIAA / MoEFCC, as applicable. In case of any deviation or alterations in the project proposal from those submitted to the SEIAA for clearance, a fresh reference shall be made to the SEIAA / MoEFCC, as applicable, to assess the adequacy of the conditions imposed and to add additional environmental protection measures required, if any.
- 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 monitor the criteria pollutants level viz., PM₁₀, SO₂, NO₂ (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.



- vi) The project proponent shall submit six-monthly compliance report on the status of the compliance of the stipulated environmental conditions including results of monitored data in hard and soft copies on 1st June and 1st December of each calendar year in respect of the conditions stipulated in the Environmental Clearance issued to SEIAA, PPCC and Regional Office of CPCB and MoEFCC.
- vii) 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.
- viii) The project proponent shall submit the Environmental Statement for each financial year in Form-V to the Puducherry Pollution Control Committee as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- ix) 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 and start of production operation by the Project Proponent.
- x) The project authorities must strictly adhere to the stipulations made by the Puducherry Pollution Control Committee and the U.T. Government.
- 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 the Environment (Protection) Act, 1986.
- xii) The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xiii) The SEIAA reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiv) The Puducherry Pollution Control Committee and Regional Office of MoEFCC shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the Officer (s) of the PPCC / Regional Office of MoEFCC by furnishing the requisite data / information / monitoring reports whenever requested.
- 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.



2. Proposal for Environmental Clearance (EC) submitted by M/s. Aarupadai Veedu Medical College and Hospital, Puducherry for proposed additional construction of eight storeyed hospital building.

The project proponent and the accredited consultant made a detailed presentation on the salient features of the project proposal and informed that they are seeking Environmental Clearance for proposed additional construction of eight storeyed hospital building. The following representatives were present on behalf of the project proponent:

- i) Mr. L. Perumal, Deputy Registrar, M/s. Aarupadai Veedu Medical College and Hospital, Puducherry.
- ii) Dr. J.R. Moses, CEO, M/s. Hubert Enviro Care Systems (P) Ltd., Chennai.

Project details in brief:

Name of the Project	Additional construction of eight storeyed hospital building by M/s. Aarupadai Veedu Medical College and Hospital, Puducherry.		
Project Location	R.S. No. 1/6, 1/8, 2/2, 2/3, 2/4, 3/2A, 3/2B, 3/3A, 3/3B, 4/1, 4/2, 6/1, 6/2, 10/2, 10/3, 10/3A, 10/3A/1, 10/3A/2, 10/3A/3, 10/3B, 10/3C, 11/1, 11/2, 11/3, 11/4, 12/1B, 12/2, 12/3, 12/5, Puducherry to Cuddalore Main Road, Kirumampakkam Revenue Village, Bahour Taluk, Puducherry District, Puducherry.		
Particulars	Existing	Proposed	After Expansion
Total plot area	1,64,181.0 Sq.m	Nil	1,64,181.0 Sq.m
Plot coverage	43931.8 Sq.m	2167.84 Sq.m	46099.64 Sq.m
Hospital built-up area	28409.28 Sq.m	17,342.72 Sq.m.	45,752 Sq.m.
Non hospital built-up area	59305.2 Sq.m.	-	59305.2 Sq.m.
Total built-up Area	87,714.48 Sq.m	17,342.72 Sq.m	1,05,057.20 Sq.m
Green belt Area	24,200 Sq.m	29,995.86 Sq.m.	54,195.86 Sq.m
No of Beds	550	200	750
Estimated population	4096	600	4696 Nos.
Power requirement	1000 KVA	1600 KVA	2600 KVA
Power backup	1 x 500 KVA 1 x 250 KVA	2 x 750 KVA	1 x 500 KVA 1 x 250 KVA 2 x 750 KVA
Total Water requirement	808 KLD	245 KLD	1053 KLD
Fresh water requirement	386 KLD	127 KLD	513 KLD
Recycled water	422 KLD	118 KLD	540 KLD
Fresh Water source	Ground water	Ground water	Ground water



Wastewater generation	422 KLD	118 KLD	540 KLD
Solid waste generation	1648 kgs/day	177 kgs/day	1825 kgs/day
Biomedical waste generation	288.28 kgs/day	73.8 kgs/day	362.08 kgs/day
Total project cost	109.96 Crores	56.29 Crores	166.25 Crores

The said project / activity is covered under category B2 (Building and Construction projects) of item 8 (a) of Schedule to the EIA Notification, 2006 and its subsequent amendments.

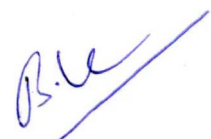
Project proponent had commenced the construction of additional buildings without Prior Environmental Clearance. The project proponent had applied for TOR for Environmental Clearance on 12.04.2018 after commencement of construction activities. The proposal was deliberated in the 22nd SEAC meeting held on 25.06.2018 and TOR was issued on 26.09.2018, in terms of the provisions of the MoEFCC Notification dated 14th March, 2017 and 8th March 2018.

Accordingly, project proponent prepared the EIA report through accredited consultant with assessment of ecological damage, remediation plan and natural and community resource augmentation plan, incorporated as separate chapter in the EIA report and applied for Environmental Clearance. The proposal was deliberated by the SEAC in the 28th SEAC meeting held on 15.09.2021 and the committee directed the project proponent to submit revised EIA report in view of shortcomings. The revised EIA report submitted by the project proponent after attending to the deficiencies pointed out in the earlier SEAC meeting was considered in the present meeting.

The SEAC observed that the existing STP will not be adequate to meet the waste water generation of 540 KLD and recommended that considering future needs STP treatment capacity shall be enhanced to treat 600 KLD waste water. Liquid effluents generated from lab, laundry, mortuary, autopsy and other liquid waste generated from the hospital covered under the Bio Medical Waste Rules, 2016 shall be pre-treated in separate effluent treatment plant before mixing with the waste waters in the STP.

The SEAC noted that the cost towards the amount of remediation plan and natural and community resource augmentation plan amounts to Rs. 36,15,000/-. Accordingly, the SEAC recommends that the project proponent shall submit a bank guarantee equivalent to Rs. 36,15,000/- to the Pudukcherry Pollution Control Committee prior to the grant of EC. The bank guarantee shall be released after successful implementation of the remediation plan and natural and community augmentation plan and after the recommendation by SEAC and approval of SEIAA.

The SEAC deliberated the proposal and made due diligence in the process as notified under the provisions of the EIA Notification 2006, as amended from time to time and accordingly decided to recommend the proposal for Environmental Clearance subject to submission of bank guarantee as stated above and following specific conditions given below



and standard conditions prescribed by MoEFCC for building and construction projects vide OM dated 04.01.2019 given at Annexure II:

Specific Conditions:

- (i) This clearance is issued under the provisions of the EIA Notification, 2016. All other statutory clearances as applicable to the project shall be obtained by the project proponent from the concerned competent authority including the Consent to Establish and Operate for construction of additional building from the Puducherry Pollution Control Committee (PPCC).
- (ii) The pollution and control measures with regard to waste water treatment and disposal, air and noise pollution control measures, biomedical waste, hazardous waste, solid waste management and all risk mitigation measures shall be strictly implemented as per the Environmental Management Plan submitted by the project proponent and in consonance with existing rules and regulations.
- (iii) The total water requirement shall not exceed 1053 KLD out of which 513 KLD fresh water shall be met from borewells and 540 KLD shall be met from treated waste water. Necessary approval shall be obtained from the Puducherry State Ground Water Authority for drawal of ground water.
- (iv) The domestic waste water generation shall not exceed 540 KLD and it shall be treated in the STP with design capacity of 600 KLD. Liquid effluents generated from lab, laundry, mortuary and autopsy and other liquid waste generated from the hospital covered under the Bio Medical Waste Rules, 2016 shall be pre-treated in separate effluent treatment plant before mixing with other waste waters in the STP. The treated wastewater shall conform to the standards stipulated under the Environment (Protection) Rules, 1986 and the Bio Medical Waste Rules, 2016 as amended from time to time. Treated waste water shall be recycled / reused for toilet flushing, fire water makeup and gardening within premises and no excess treated water shall be let outside the project site.
- (v) The project proponent shall devise a monitoring plan to the satisfaction of the Puducherry Pollution Control Committee so as to continuously monitor the treated waste water being used for flushing in terms of fecal coliforms and other pathogenic bacteria.
- (vi) The project proponent shall take all necessary steps to ensure that bio-medical waste (362.08 Kgs./day) is handled without any adverse effect to human health and the environment and in accordance with the Bio-Medical Waste Management Rules, 2016 and shall be safely handed over to the authorized Common Bio Medical Waste Treatment Facility for final disposal.
- (vii) The project proponent shall make a provision within the premises for a safe, ventilated and secured location for storage of segregated biomedical waste in colored bags or containers in the manner as specified in Schedule I of the Bio-Medical Wastes Management Rules, 2016 to ensure that there shall be no secondary handling, pilferage of recyclables or inadvertent scattering or spillage by animals and the bio-medical waste from such place or premises shall be directly transported in the manner as prescribed in these rules to the common bio-medical waste treatment facility or for the appropriate treatment and disposal, as the case may be, in the manner as prescribed in Schedule I of the said rules.



- (viii) A Committee shall be constituted with Medical Superintendent as Head to monitor the effective implementation of Bio-medical Waste Rules and proper training shall be given to all the staff involved and records to be maintained.
- (ix) The green belt and 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, total area of 54195.86 sq.m. of plot area (33%) shall be developed as green area.
- (x) As per the MoEFCC OM dated 30.09.2020 superseding the OM dated 01.05.2018 regarding the Corporate Environmental Responsibility, the project proponent shall allocate an amount of Rs. 56.29 Lakhs towards environment conservation and community welfare activities, which shall be utilized over a period of four years. The said amount shall be utilized for activities like infrastructure creation for drinking water supply, sanitation, health, education, skill development, roads, cross drains, electrification including solar power, solid waste management facilities, scientific support and awareness to local farmers to increase yield of crop and fodder, rain water harvesting, soil moisture conservation works, avenue plantation, plantation in community areas, etc. within the project area. The Project Proponent shall prepare a separate project report on the proposed environment conservation and community welfare activities in consultation with the District Collector and after duly studying the needs of the surrounding villages. Copy of the CER project report shall be submitted to the District Collector, SEIAA, PPCC and Regional Office of MoEFCC. The activities shall be implemented in a time bound manner in consultation with the District Collector. The project progress report shall be submitted to the SEIAA, PPCC and Regional Office of MoEFCC as a part of the half yearly compliance report. The above fund allocated towards environment conservation support activities is to be in addition to the cost envisaged under the CSR budget of the company which will be allocated as per the rules prescribed by the Government of India / Companies Act 2013.

3. Proposal for Environmental Clearance (EC) submitted by M/s. Sri Balaji Vidyapeeth, Puducherry for proposed expansion of hospital components in the existing Mahatma Gandhi Medical College Campus.

The project proponent and the accredited consultant made a detailed presentation on the salient features of the project proposal and informed that they are seeking Environmental Clearance for proposed additional construction of hospital building (G+9 floors) in the existing Mahatma Gandhi Medical College campus. The following representatives were present on behalf of the project proponent:

- i) Mr. M. Prabakaran, Project Co-ordinator, Mahatma Gandhi Medical College and Research Institute, Puducherry.
- ii) Ms. K. Vijayalakshmi, Technical Manager / EIA Co-ordinator, Ecotech Labs Pvt. Ltd., Chennai.



Project details in brief:

Name of the Project	Additional construction of Hospital components in the existing Mahatma Gandhi Medical College campus by M/s. Sri Balaji Vidyapeeth, Puducherry		
Project Location	R.S. No. 46/2B, 47/1, 47/3, 48/1, 48/3, 49/2, 49/3A, 49/3B, 55/1A/1A, 55/1A/1B, 55/1A/1C, 55/1A/1D, 55/2A, 55/2B, 55/2C, 55/2D, 56/1A, 56/2B/1, 56/3A, 56/1A, 57/2, 57/3, 57/4, 57/5, 57/6, 58/2, 58/3, 58/4A, 64/1, 64/2, 64/3, 64/5, 65/1, 65/2, 65/5, 65/7, 65/8, 66/6 in Pillayarkuppam Revenue Village and 80/1, 81/1, 81/2, 81/3, 82/2A, 82/2B & 4/2 in Manapet Revenue Village, Bahour Commune Panchayat, Puducherry District, Puducherry.		
Particulars	Existing	Proposed	After Expansion
Total plot area	1,86,479 Sq.m	Nil	1,86,479 Sq.m
Ground coverage area	42,348 Sq.m	2209.57 Sq.m.	44557.57 Sq.m.
Hospital built-up area	42,273.65 Sq.m	21,599 Sq.m.	63,872.65 Sq.m.
Non hospital built-up area	1,29,406.57 Sq.m.	-	1,29,406.57 Sq.m.
Total built-up Area	1,71,680.22 Sq.m	21,599 Sq.m.	1,93,279.36 Sq.m
Green belt area	60,367 Sq.m	1870 Sq.m.	62,237 Sq.m
No of Beds	1150	90	1240
Estimated population	6075 Nos.	316 Nos.	6391 Nos.
Power requirement	2490 KVA	-	2490 KVA
Power backup	1 x 625 KVA 1 x 725 KVA 1 x 750 KVA	-	1 x 625 KVA 1 x 725 KVA 1 x 750 KVA
Total Water requirement	1225 KLD	95 KLD	1320 KLD
Fresh water requirement	639 KLD	50 KLD	689 KLD
Recycled water	586 KLD	45 KLD	631 KLD
Fresh Water source	Ground water	Ground water	Ground water
Hospital effluent generation	41 KLD	4 KLD	45 KLD
Other wastewater generation	576 KLD	43 KLD	619 KLD
Solid waste generation	2891 kg/day	202 kg/day	3093 kg/day
Bio medical waste generation	255 kg/day	49 kg/day	304 kg/day
Total project cost	312 Crores	35.8 Crores	347.8 Crores

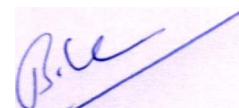


The said project / activity is covered under category B2 (Building and Construction projects) of item 8 (a) of Schedule to the EIA Notification, 2006 and its subsequent amendments.

The SEAC deliberated the proposal and made due diligence in the process as notified under the provisions of the EIA Notification 2006, as amended from time to time and accordingly decided to recommend the proposal for Environmental Clearance subject to specific conditions given below and standard conditions prescribed by MoEFCC for building and construction projects vide OM dated 04.01.2019 given at Annexure II:


Specific Conditions:

- (i) This clearance is issued under the provisions of the EIA Notification, 2016. All other statutory clearances as applicable to the project shall be obtained by the project proponent from the concerned competent authority including the Consent to Establish and Operate for construction of additional building from the Puducherry Pollution Control Committee (PPCC).
- (ii) The pollution and control measures with regard to waste water treatment and disposal, air and noise pollution control measures, biomedical waste, hazardous waste, solid waste management and all risk mitigation measures shall be strictly implemented as per the Environmental Management Plan submitted by the project proponent and in consonance with existing rules and regulations.
- (iii) The total water requirement shall not exceed 1320 KLD out of which 689 KLD fresh water shall be met from borewells and 631 KLD shall be met from treated waste water. Necessary approval shall be obtained from the Puducherry State Ground Water Authority for drawal of ground water.
- (iv) The domestic waste water generation shall not exceed 619 KLD and it shall be treated in the existing two nos. of STPs with design capacity of 600 KLD and 300 KLD. Liquid effluents generated from lab, laundry, mortuary and autopsy and other liquid waste generated from the hospital covered under the Bio Medical Waste Rules, 2016 shall be pre-treated in separate effluent treatment plant of 60 KLD capacity before mixing with other waste waters in the STP. The treated wastewater shall conform to the standards stipulated under the Environment (Protection) Rules, 1986 and the Bio Medical Waste Rules, 2016 as amended from time to time. Treated waste water shall be recycled / reused for toilet flushing, fire water makeup and gardening within premises and no excess treated water shall be let outside the project site.
- (v) The project proponent shall devise a monitoring plan to the satisfaction of the Puducherry Pollution Control Committee so as to continuously monitor the treated waste water being used for flushing in terms of fecal coliforms and other pathogenic bacteria.
- (vi) The project proponent shall take all necessary steps to ensure that bio-medical waste (304 Kgs./day) is handled without any adverse effect to human health and the environment and in accordance with the Bio-Medical Waste Management Rules, 2016 and shall be safely handed over to the authorized Common Bio Medical Waste Treatment Facility for final disposal.



- (vii) The project proponent shall make a provision within the premises for a safe, ventilated and secured location for storage of segregated biomedical waste in colored bags or containers in the manner as specified in Schedule I of the Bio-Medical Wastes Management Rules, 2016 to ensure that there shall be no secondary handling, pilferage of recyclables or inadvertent scattering or spillage by animals and the bio-medical waste from such place or premises shall be directly transported in the manner as prescribed in these rules to the common bio-medical waste treatment facility or for the appropriate treatment and disposal, as the case may be, in the manner as prescribed in Schedule I of the said rules.
- (viii) A Committee shall be constituted with Medical Superintendent as Head to monitor the effective implementation of Bio-medical Waste Rules and proper training shall be given to all the staff involved and records to be maintained.
- (ix) The green belt and 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. At least 33% of the total plot area shall be developed as green area.
- (x) As per the MoEFCC OM dated 30.09.2020 superseding the OM dated 01.05.2018 regarding the Corporate Environmental Responsibility, the project proponent shall allocate an amount of Rs. 35.80 Lakhs towards environment conservation and community welfare activities, which shall be utilized over a period of four years. The said amount shall be utilized for activities like infrastructure creation for drinking water supply, sanitation, health, education, skill development, roads, cross drains, electrification including solar power, solid waste management facilities, scientific support and awareness to local farmers to increase yield of crop and fodder, rain water harvesting, soil moisture conservation works, avenue plantation, plantation in community areas, etc. within the project area. The Project Proponent shall prepare a separate project report on the proposed environment conservation and community welfare activities in consultation with the District Collector and after duly studying the needs of the surrounding villages. Copy of the CER project report shall be submitted to the District Collector, SEIAA, PPCC and Regional Office of MoEFCC. The activities shall be implemented in a time bound manner in consultation with the District Collector. The project progress report shall be submitted to the SEIAA, PPCC and Regional Office of MoEFCC as a part of the half yearly compliance report. The above fund allocated towards environment conservation support activities is to be in addition to the cost envisaged under the CSR budget of the company which will be allocated as per the rules prescribed by the Government of India / Companies Act 2013.


Dr. R. Sagaya Alfred
 (Secretary)


Dr. B. Kumaran
 (Chairman)

Annexure – I**Members Present**

Sl. No.	Name and Designation of the Members	-	
1.	Dr. B. Kumaran, Principal (Retd.), Indira Gandhi College of Arts and Science, Kathirkamam, Puducherry – 605 009.	-	Chairman
2.	Dr. S. Ram Kumar, Professor, Rajiv Gandhi Institute of Veterinary Education and Research, Kurumbapet, Puducherry – 605 009.	-	Member
3.	Mrs. S. Usha, Assistant Professor, Department of Chemical Engineering, Pondicherry Engineering College, Pillaichavady, Puducherry – 605 014.	-	Member
4.	Dr. A. Yogamoorthi, Associate Professor (Retd.) 6, Second Cross, Aravindar Nagar, Reddiarpalayam, Puducherry – 605010	-	Member
5.	Dr. K.M. Gopinathan, Associate Professor, Department of Zoology, Mahatma Gandhi Government Arts College, New Mahe – 673 311.	-	Member
6.	Dr. K. Sambandan, Assistant Professor, Department of Botany, Arignar Anna Government Arts and Science College, Karaikal – 609 605.	-	Member
7.	Dr. P. Kavita Vasudevan, Professor, Department of Community Medicine, Indira Gandhi Medical College and Research Institute, Kathirkamam, Puducherry – 605 009.	-	Member
8.	Dr. R. Sagaya Alfred Senior Scientific Officer Department of Science, Technology and Environment 3 rd Floor, PHB Building, Anna Nagar Puducherry – 605 005.	-	Secretary



Annexure - II**Standard Conditions for Building and Construction Projects****I. Statutory compliance:**

- i. 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 and Bio Medical Waste Authorization under the Bio Medical Waste Rules, 2016 from the PPCC and shall submit copy of the same to SEIAA, Puducherry.
- ii. 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.
- iii. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment etc., as per National Building Code including protection measures from lightening etc.
- iv. The project proponent shall obtain necessary permission for drawal of ground water / surface water required for the project from the competent authority.
- 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 shall be obtained, as applicable, by project proponents from the respective competent authorities.
- vii. The provisions of the Solid Waste Management Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste Management Rules, 2016, shall be followed.
- viii. 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 expected 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. PM₁₀ and PM_{2.5}) covering upwind and downwind directions during the construction period.



- iv. Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Low sulphur diesel shall be used as fuel. The location of the DG sets may be decided with in consultation with PPCC.
- v. Construction site shall be adequately barricaded before the construction begins. Dust, smoke and 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 rules made under the Environment (Protection) Act, 1986.
- 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) / PPCC norms.
- xii. For indoor air quality the ventilation provisions as per National Building Code of India.

III. Water quality monitoring and preservation:

- i. The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water.
- ii. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.



- iii. 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, MoEFCC and PPCC along with six monthly Monitoring reports.
- iv. 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.
- v. 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.
- vi. 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.
- vii. 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.
- viii. 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.
- ix. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
- x. A rain water harvesting plan needs to be designed in consultation with Ground Water Authority 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.
- xi. 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 Central / Puducherry Ground Water Authority as applicable for any ground water abstraction or dewatering.
- xii. 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 of MoEF&CC and PPCC along with six monthly Monitoring reports.
- xiii. No sewage or untreated effluent water shall be discharged through storm water drains.
- xiv. 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 Regional Office of MoEF&CC and PPCC 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.

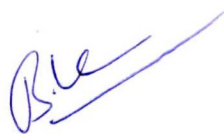
- xv. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
- xvi. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, 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 silent 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 and PPCC 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 buildings 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 MSW generated from project shall be obtained.
- ii. Disposal of muck during construction phase shall not create any adverse effect on the neighboring 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. Organic waste compost / Vermiculture pit / Organic Waste Converter within the premises with a minimum capacity of 0.3 kg. / person / day must be installed.
- iv. All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.
- v. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the PPCC.
- vi. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity.
- vii. 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 27.08.2003 and 25.01.2016. 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. Green belt shall be developed in at least 33% of total plot area with indigenous plant species.
- ii. 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.

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 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 Regional office of the Ministry and PPCC as a part of six-monthly report.

- ii. 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.
- iii. 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 Regional office of the Ministry and PPCC along with the Six Monthly Compliance Report.

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, 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 (Industries Department and PPCC) who in turn has to display the same for 30 days from the date of receipt.
- iii) No further expansion or modifications in the plant shall be carried out without prior Environmental Clearance from SEIAA / MoEFCC, as applicable. In case of any deviation or alterations in the project proposal from those submitted to the SEIAA for clearance, a fresh reference shall be made to the SEIAA / MoEFCC, as applicable, to assess the adequacy of the conditions imposed and to add additional environmental protection measures required, if any.
- 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 monitor the criteria pollutants level viz., PM₁₀, SO₂, NO₂ (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- vi) The project proponent shall submit six-monthly compliance report on the status of the compliance of the stipulated environmental conditions including results of monitored data in hard and soft copies on 1st June and 1st December of each calendar year in respect



of the conditions stipulated in the Environmental Clearance issued to SEIAA, PPCC and Regional Office of CPCB and MoEFCC.

- vii) 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.
- viii) The project proponent shall submit the Environmental Statement for each financial year in Form-V to the Puducherry Pollution Control Committee as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- ix) 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 and start of production operation by the project proponent.
- x) The project authorities must strictly adhere to the stipulations made by the Puducherry Pollution Control Committee and the U.T. Government.
- 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 SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xiii) The SEIAA reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiv) The Puducherry Pollution Control Committee and Regional Office of MoEFCC shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the Officer (s) of the PPCC / Regional Office of MoEFCC by furnishing the requisite data / information / monitoring reports whenever requested.
- 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.

