Validity expires on 16.03.2025

सत्यमेव जयते

Proceedings of the State Environment Impact Assessment Authority Kerala

Present: Prof. (Dr.) K.P. Joy, Chairman, Dr. J. Subhashini, Member &
Sri. P.H.Kurian I.A.S Member Secretary

Sub: **SEIAA- Environmental Clearance for proposed Hospital Project in Sy. Nos. 16/1, 17/1, 17/4, 17/5, 21/9, 21/11, 22/5, 22/6, 22/8, 22/12 at Edakkad Village and Edakkad Panchayath, Kannur Taluk, Kannur District, Kerala by Sri. E.K.Abdul Hameed, Managing Director, Genesis Institute of Medical Science Pvt. Ltd. – Granted Orders issued**

State Environment Impact Assessment Authority, Kerala

No. 971/EC4/4482/2015/SEIAA dated, Thiruvananthapuram 17.03.2018

Ref: 1. Application received on 28.10.2015 from Sri. E.K. Abdul Hameed, Managing Director, Genesis Institute of Medical Science Pvt. Ltd, Ground Floor, JR Complex, Talap, Kannur – 670 004
2. Minutes of the 59th SEAC meeting held on 11-12th July,2016
3. Minutes of the 64th Meeting of SEAC held on 16th & 17th November 2016
4. Minutes of the 62nd SEIAA meeting held on 23rd December 2016
5. Judgement dt. 07.12.2017 in WP(C) No.3814/17 of the Hon'ble High Court
6. Minutes of the 79th meeting of SEIAA held on 09th January 2018
7. Minutes of the 80th meeting of SEIAA held on 16th February 2018.
8. Certificate (CED/CON/SC/2018019 dt.16.03.2018) from Department of Civil Engineering, National Institute of Technology Calicut.
9. Affidavit dated .19.03.2018 from Sri. E.K. Abdul Hameed, Managing Director, Genesis Institute of Medical Science Pvt. Ltd

ENVIRONMENTAL CLEARANCE NO.42/2018

Sri. E.K. Abdul Hameed, Managing Director, Genesis Institute of Medical Science Pvt. Ltd, Ground Floor, JR Complex, Talap, Kannur – 670 004 vide his application received on 28.10.2015 has sought Environmental Clearance under the EIA Notification, 2006 for the Hospital project in Sy. Nos.16/1, 17/1, 17/4, 17/5, 21/9, 21/11, 22/5, 22/6, 22/8, 22/12 at Edakkad Village and Edakkad Panchayath, Kannur Taluk, Kannur District, Kerala.

It is interalia, noted that the project comes under the Category B, 8(a) of Schedule of EIA Notification 2006.

Details of the project as provided by the project proponent

BASIC INFORMATION OF BUILDING PROJECT

(To be filled in by the Project Proponent)

	Project details	
•	File No.	971/SEIAA/EC/4482/2015 dated 27.10.2015
•	Name /Title of the project	Environmental Clearance for the Proposed Genesis Hospital, Chala Bypass, Kannur.
•	Name and address of project proponent.	E.K. Abdul Hameed, Managing Director, Genesis Institute of Medical Science Private Ltd, Ground Floor, JR complex, Talap, Kannur- 670004
•	Owner of the land	E.K. Abdul Hameed, Managing Director, Genesis Institue of Medical Science Private Ltd,
•	Survey No. District/Taluk/ and Village etc.	16/1,17/1, 17/4,17/5, 21/9, 21/11, 22/5, 22/6, 22/8,22/12 Kannur District, Kannur Taluk, Edakkad Village
•	Nature of the proposal – lease or permit with evidence.	Building Construction for Hospital in own land
•	Date of submission of Application	27.10.2015
•	Brief description of the project.	Proposed to construct Hospital buildings at land survey Nos:16/1,17/1,17/4,17/5,21/9,21/11,22/5,22/6, 22/8 and 22/12 in Edakkad village, Kannur Taluk, Kannur District. The total plot area is 6.0026Acres and the proposed total built up area is 30618.57 sq.m. Building construction started with build up area of 18373.54sq.m and now management decided to extend building plan to 30618.57 sq.m.
•	Details of Authorized Signatory and address for correspondence	E.K. Abdul Hameed, Managing Director, Genesis Institue of Medical Science Private Ltd, Ground Floor, JR complex, Talap, Kannur- 670004
	I. Land Details	
•	a) Extent of area in hectares	2.429 Hectors
•	b) Is the property forest land/Govt. land/own land/patta land	Own land

•	c) Quantity of top soil/over burden produced and managed	Not applicable
•	d) Latitude and Longitude	Latitude (N): 11°50'17"to 11° 50'27"N Longitude (E): 76° 25'37" to 75° 25'44" E
•	e) Topography of land and elevation	Topography of the area is flat to slightly undulating. 15 m from MSL
•	f) Slope analysis	5-10%
•	g) Will there be any significant land disturbance resulting in soil erosion, subsidence & natural drainage.	No
•	h) Access road to the site width and condition	NH-17 30 m wide (9 m asphalted)
•	i) Will there be any adverse impact on the aesthetics of the proposal site	No adverse impact on aesthetics of the proposed project

II. Details of Project cost

•	a) Land cost	Rs.3,85,00,000	
•	b) Plant and Machinery	Land Development, Piling, Civil & Building Work including all services i.e. electrical, plumbing, fire fighting, HVAC, Elevators, Support and Hospital Services, etc.:	105,46,00,000
		Medical Equipment & Medical Furniture	46,78,00000
		Furnitures, Fixtures and Vehicle	4,00,00,000
		Pre-operative cost and Interest during constructionPeriod	8,19,60,000
		Contingency Reserve & Misc. Expense	13,50,00,000
•	c) Total Cost	Rs.181,78,60,000	
•	V. Financial Statement including funding source and details of insurance etc.	* Promoters Contribution : 67,26,00,000 * Private Placement : 40,00,00,000 * Term Loan : 74,52,60,000 Total Amount consumed as at 31.03.2016 : 37,11,15,329	
•	Management Plan	Air Pollution: 7.15 lakhs Water Pollution: 95 lakhs Noise: 3.5 lakhs Solid Waste Management: 50 lakhs Eco-restoration: 20 lakhs	
•	VI. Whether Environment Management Plan or Eco restoration Plan satisfactory?	Adequate Environment Management Plan provided to mitigate the Environmental impacts due to the proposed project. Sewage treatment plant, solid waste process plant (Biogas plant) , green belt area, parking space, rain water harvesting tank , Acoustic enclosure with required stack height, Water treatment plant, Fire fighting system, Agreement with IMAGE for biomedical waste management, electrical room and internal traffic circulation will be	

		provided during operation phase of the project.
•	VII. Does it suggest mitigation measures for each activity	Yes
•	VIII. If Pre-Feasibility Report (PFR) satisfactory	Not applicable for Building construction projects
•	IX. Does it need public hearing	Not applicable
•	X. Details of litigation and Court verdict if any	Not applicable
•	XI. Details of public complaint, if any	No
•	XII. Details of statutory sanction required	Building permit , fire sanction, data bank and certificate from Village officer stating that the plot is not included in of Kerala Conservation of Paddy land & Wetland Act 2008 and KSPCB consent provided along with application
•	XIII. If CRZ recommendation applicable?	Not applicable
PART B Environment Impact Assessment and Mitigation Measures		
Impact on water		
•	a) Details of water requirement per day in KLD	340.47 KLD
•	b) Water source/sources	Well water, rain water harvesting and treated water
•	c) Expected water use per day in KLD	340.47 KLD
•	d) Details of water requirements met from water harvesting	100 KLD
•	e) What are the impact of the proposal on the ground water?	No impacts
•	f) How much of the water requirement can be met from the recycling of treated waste water? (Facilities for liquid waste treatment)	256.66 KLD recycled water is used for flushing, irrigation and cooling purpose A waste water treatment plant of capacity 300 KLD to treat the waste water generated from the hospital of with chemical treatment , Anerobic digestor, Fluidized Aerobic Bed reactor with disinfection, filtration and ultra filtration treatment. The treated water will meet the requirements of KSPCB for recycling purpose.
•	g) What is the incremental pollution load from waste water generated from the proposed activities?	No incremental pollution load because the whole waste water generated will be treated . Treated water will be used for recycling purpose(for flushing, irrigation and cooling) and balance treated water will be discharged through soak pits.
•	h) How is the storm water from within the site managed?	Rain water harvesting tank and storm water management facilities are provided
Impact on Biodiversity and Eco restoration Programmes		

•	a) Will the project involve extensive clearing or modification of vegetation (Provide details)	No
•	b) What ate the measures proposed to minimize the likely impact on vegetation (details of proposal for tree plantation/ landscaping)	Green belt will be developed during operation phase with twenty different species suitable to the site condition
•	c) Is there any displacement of fauna – both terrestrial and aquatic. – If so what are the mitigation measures ? d) Presence of any endangered species or red listed category (in detail)	No faunal displacement
	Impact on Air Environment	
•	a) What are the mitigation measures on generation of dust, smoke and air quality	During construction phase use of RMC, water spraying and providing barricades along the periphery of the Site will reduce dust and smoke. PPE such as Masks for Labourers, Ear muffs and Ear plugs will be provided for workers at high noise working area. All vehicles used in the site will have Pollution certificate.
•	b) Details of internal traffic management of the site.	Within the hospital circular road is provided and 15 m wide road at the entrance to high way. Also parking plan enhanced based on the suggestion from SEAC members.
•	c) Details of noise from traffic, machines and vibrator and mitigation measures	Adequate mitigation measures will be provided to control the noise emissions. All noise generating equipments will be placed on acoustic enclosures, proper maintenance and greasing will be done periodically, personnel protective equipments will be given to employees working in high noise area.
•	d) Impact of DG sets and other equipments on noise and vibration and ambient air quality around the project site and mitigation measures	Acoustic enclosures and sufficient Stacks shall be provided for DG Sets
•	e) Air quality monitoring in detail	During operation phase Ambient air quality parmaters such as PM_{10}, $PM_{2.5}$,SO2, NO_x& CO will be monitored yearly twice on 24 hour duration, DG stack emissions will be monitored monthly. Suitable measures will be taken to avoid any changes in Ambient air quality .
	Energy Conservation	
•	a) Details of power requirement and source of supply.	2000 KVA Kerala State Electricity Board Two DG sets of 1010 KVA and 750 KVA capacity will be provided during operation phase for power back up
•	b) Details of renewable	Solar Power

	energy (non – conventional) used.	75 KW (10% of the total energy consumption)
	Risk Management	
•	a) Are there sufficient measures proposed for risk hazards in case of emergency such as accident at the site?	Fire fighting system will be provided as per IS 2190:1992 and National Building code of India 2005- Part 4 Biomedical waste will be collected separately and disposed through IMAGE Safety measures will be strictly followed to avoid accidents
	Socio Economic Impacts	
•	a) Will the project cause adverse effects on local communities disturbance to sacred sites or other cultural values. What are the safe guards proposed?	No adverse effects on local communities
•	b) Will the proposal result in any changes to the demographic structure of local population. If so, provide details.	No changes to the demographic structure of local population
•	c) What are the projects benefits in terms of employment potential?	Many local people will get employment directly and indirectly
	PART C	
•	Details of NABET approved EIA Consultant engaged- Their name, address and accreditation details	Certificate No. QCI/NABET/ENV/ACO/06/07/0182 Envirochem Laboratories Private Ltd, II Floor, Thozhuthungal Building , Kovilakathumpadam, Thrissur – 680020
Summary and Conclusion		
•	a) Overall justification for implementation of the project.	The proposed project confirms to all rules and regulations of Category B2 8(a) Building projects
•	b) Explanation of how adverse impact have been mitigated.	Adverse impacts on air, water, noise will be mitigated through appropriate measures and details are provided in the Environmental Management Plan

2. The proposal was first considered in the 59th SEAC meeting held on 11th & 12th July, 2016. The Committee decided to defer the item for field visit and for the following clarifications

1. *A map showing site plan of the area and sectional elevation showing cutting and filling of earth.*
2. *Copy of the relevant page in the databank to prove that the land is exempted from the purview of Kerala Conservation of Paddy Land & Wetland Act, 2008.*
3. *Parking shall be enhanced. Detailed plan of enhanced parking space*
4. *Proposed capacity of renewable source of energy with details of mechanism.*

5. Revised and more realistic CSR should be submitted.

6. Dependable source of water

Accordingly, the Sub-committee of SEAC consisting of Dr P S Harikumar and Dr.Khaleel Chowa visited the site on 2nd October 2016. The report is as follows:

The proponent has constructed already ground plus 3 floors. As per the information gathered from the client, they had constructed approximately, 17,392 sq.m. They had produced the following documents which have to be verified in detail by the SEAC secretariat:

i. A0 map showing the site plan of the area and sectional elevation indicating cutting and filling of earth

ii. Copy of the letter from the concerned authorities showing that the land is exempted from paddy and wetland act

iii. They have acquired nearby land to enhance the parking facilities. Documents were produced. We had seen the newly acquired land near the existing site

iv. Detailed plan for enhancing the renewable source of energy

v. The revised CSR

vi. The proponent could not produce documents on the study carried out on dependable source of water. They had given assurance they will be carrying out the details of water balance (groundwater) and will submit the report to SEIAA (SEAC secretariat to check)

The committee walked around the site after the initial discussion and found that some debris of the construction materials was dumped in the premises. On the date of visit, no construction was observed.

The bio gas plant is being constructed in a marshy and water logged area for which the proponent has to take necessary precaution. A waste treatment plant is under construction. A proper drainage plan should be implemented especially to discharge the storm water and treated waste water (which may be left over after re-use). The proponent should be very careful not to pressurise the small public drains outside to discharge the water. After checking the above documents and stipulating general conditions for building projects and special conditions listed below, the report is place before SEAC for further necessary action:

Special Conditions:

i) *The proponent should take appropriate precaution for the construction of bio gas generator since it is found to be constructed in a marshy water logged area. Adequate protection should be provided around the area for preventing any disaster.*

ii) *The proponent has to carry out a detailed groundwater estimation by an authorised agency and submit the report*

iii) *The proponent should ensure that only minimal amount of waste water and storm water will be discharged into the adjacent public drains.*

3. The proposal was again considered in the 64th Meeting of SEAC held on 16th and 17th November 2016. The proponent had commenced the constructions of a 350 bed hospital having an area of 18373.54 m2 in 2011 with building permit no. A-880/11 dated 28.11.2011 from Edakkad Panchayath. Subsequently the management has changed the building plan to an area of 30,618.5789 m2 which requires Environment Clearance. Enhanced parking plan provided is satisfied. The proponent has submitted revised CSR but the amount allotted for 5 years is too less. SEIAA may direct the proponent to enhance the amount to 15 lakh/ year.

Based on the Conceptual plan, Form.1 and all other documents submitted along with the application the committee decided to recommend the item subject to the following specific condition in addition to the general conditions.

i) *The waste water discharge to the public drains shall be minimal and that too after observing strict treatment protocols.*

4. The proposal was considered in the 62nd SEIAA meeting held on 23rd December 2016 and the Authority decided to initiate violation proceedings against vertical expansion of a building without EC and issued stop memo on 17.02.2017.

5. The Proponent filed WP (C) No.3814/17 and the Hon'ble High Court on 11.07.2017 ordered that the construction activities of the petitioner covered by building permit shall not be interdicted till the disposal of the Writ Petition. The Hon'ble High Court as per judgment dt. 07.12.2017 has set aside the decision of the SEIAA and directed to take up and consider Ext.P10 ie. recommendation of SEAC in accordance with EIA Notification 2006 and pass orders on the same expeditiously within one month from the date of receipt of copy of judgment.

6. The proposal was placed in the 79th meeting of SEIAA held on 09th January 2018. In view of the judgment of the Hon'ble High Court in WP(C) 3814/ 2017, the matter was reconsidered and the Authority decided to accept the recommendation of 64th meeting of SEAC and to grant EC to Genesis Institute of Medical Science Pvt. Ltd. Kannur subject to the

specific condition suggested by SEAC and subject to production of a Certificate from NIT, Kozhikkode to prove the structural stability of the hospital building for constructing 3061 8.79 m^2 over a building which was originally conceived with a built up area 18373.54 m^2.

A notarised affidavit for the commitment of enhanced CSR amount and also agreeing all the general and specific condition should be submitted before the issuance of EC. It was also decided to inform the decision to the proponent and the Hon'ble High Court before the expiry of the time limit.

The proponent submitted the Certificate from National Institute of Technology, Calicut (CED/CON/SC/2018019) to prove the structural stability of the Hospital Building.

7. The proposal was again placed in the 80th meeting of SEIAA held on 16th February 2018. Authority verified the documents submitted by the proponent and found that NIT has recorded that the structure is capable of taking loads for a 6 storied structures. However in the Form I application it is mentioned that it is a 7 storied building. Authority decided to issue EC subject to the general conditions and the specific condition suggested by SEAC after getting a satisfactory clarification from the proponent regarding the actual number of storey of the building.

The proponent has again submitted a Certificate (CED/CON/SC/2018019 dt.16.03.2018) from NIT, Calicut stating that the building has sufficient strength to take load of Ground+6 story structure. A notarised affidavit has also been submitted vide reference 9th cited committing the CSR activities and agreeing all the specific and general conditions.

8. Environmental Clearance as per the EIA Notification 2006 is therefore granted for the proposed Hospital Project in Sy. Nos. 16/1, 17/1, 17/4, 17/5, 21/9, 21/11, 22/5, 22/6, 22/8, 22/12 at Edakkad Village, Kannur Taluk, Kannur District, Kerala by Sri. E.K. Abdul Hameed, Managing Director, Genesis Institute of Medical Science Pvt. Ltd, Ground Floor, JR Complex, Talap, Kannur – 670 004 subject to the conditions in para 3 & 7 above and the usual general conditions for projects other than mining appended hereto and the following green conditions should be strictly adhered to.

Green Conditions.

1. *Adequate rain water harvesting facilities shall be arranged for.*
2. *Technology and capacity of the STP to be indicated with discharge point (if any) of the treated effluent.*
3. *Effluent water not conforming to specifications shall not be let out to water bodies.*

4. *Maximum reuse of grey water for toilet flushing and gardening and construction work shall be ensured.*
5. *Dual plumbing for flushing shall be done.*
6. *Provisions for disposal of e-wastes, solid wastes, non-biodegradables and separate parking facility for the buildings shall be provided.*
7. *Generation of solar energy to be mandatory for own use and/or to be provided to the grid.*
8. *There shall be no compromise on safety conditions and facilities to be provided by the project proponent*, which shall be ensured for occupation, regularisation or consent to operate.

9. The Clearance will also be subject to full and effective implementation of all the undertakings given in the application form, all the environmental impact mitigation and management measures undertaken by the project proponent in the documents submitted to SEIAA, and the mitigation measures and waste management proposal as assured in the Form - 1 and Form-1A, Environment Management Plan as submitted. The assurances and clarifications given by the proponent in the application and related documents will be deemed to be part of these proceedings as conditions as undertaken by the proponent, as if incorporated herein.

10. Validity of the Environmental Clearance will be seven years from the date of issuance of E.C, subject to inspection by SEIAA on annual basis and compliance of the conditions, subject to earlier review of E.C in case of violation or non-compliance of any of the conditions stipulated herein or genuine complaints from residents within the scrutiny area of the project.

11. Compliance of the conditions herein will be monitored by the State Environment Impact Assessment Authority or its agencies and also by the Regional Office of the Ministry of Environment and Forests, Govt. of India, Bangalore.

i. Necessary assistance for entry and inspection by the concerned officials and staff should be provided by the project proponents.
ii. Instances of violation if any shall be reported to the District Collector, Kannur to take legal action under the Environment (Protection) Act 1986.

iii. The given address for correspondence with the authorized signatory of the project is, Sri. E.K. Abdul Hameed, Managing Director, Genesis Institute of Medical Science Pvt. Ltd, Ground Floor, JR Complex, Talap, Kannur – 670 004.

Sd/-
P.H.KURIAN I.A.S
Member Secretary (SEIAA)

To,

Sri. E.K. Abdul Hameed, Managing Director,
Genesis Institute of Medical Science Pvt. Ltd,
Ground Floor, JR Complex, Talap,
Kannur – 670 004

Copy to:

1. MoEF Regional Office, Southern Zone, KendriyaSadan, 4th Floor, E&F Wing, II Block, Koramangala, Bangalore-560034
2. The Additional Chief Secretary to Government, Environment Department
3. The District Collector, Kannur
4. The District Town Planner, Kannur
5. The Tahsildhar, Kannur Taluk, Kannur District
6. The Member Secretary, Kerala State Pollution Control Board
7. The Secretary, Edakkad Panchayat, Thottada, Kannur – 670 007
8. Chairman, SEIAA, Kerala
9. Website
10. Stock file
11. O/c

STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY KERALA

Forwarded/ By Order

Administrator, SEIAA

GENERAL CONDITIONS *(for projects other than mining)*

(i) Rain Water Harvesting capacity should be installed as per the prevailing provisions of KMBR / KPBR, unless otherwise specified elsewhere.

(ii) Environment Monitoring Cell as agreed under the affidavit filed by the proponent should be formed and made functional.

(iii) Suitable avenue trees should be planted along either side of the tarred road and open parking areas, if any, inclusive of approach road and internal roads.

(iv) The project shall incorporate devices for solar energy generation and utilization to the maximum possible extent with the possibility of contributing the same to the national grid in future.

(v) Safety measures should be implemented as per the Fire and Safety Regulations.

(vi) STP should be installed and made functional as per KSPCB guidelines including that for solid waste management.

(vii) The conditions specified in the Companies Act, 2013 should be observed for Corporate Social Responsibility.

(viii) The proponent should plant trees at least 5 times of the loss that has been occurred while clearing the land for the project.

(ix) Consent from Kerala State Pollution Control Board under Water and Air Act(s) should be obtained before initiating activity.

(x) All other statutory clearances should be obtained, as applicable, by project proponents from the respective competent authorities including that for blasting and storage of explosives.

(xi) In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Authority.

(xii) The Authority reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.

(xiii) The stipulations by Statutory Authorities under different Acts and Notifications should be complied with, including the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and control of Pollution) act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.

(xiv) The environmental safeguards contained in the EIA Report should be implemented in letter and spirit.

(xv) Provision should be made for supply of kerosene or cooking gas and pressure cooker to the labourers during construction phase.

(xvi) Officials from the Regional of MOEF, Banglore who would be monitoring the implementation of environmental safeguards should be given full co-operation, facilities and documents/data by the project proponents during their inspection. A complete set of all the documents submitted to MoEF should be forwarded to.the CCF, Regional Office of MOEF, Bangalore.

(xvii) These stipulations would be enforces among others under the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control Pollution) at 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.

(xviii) Environmental Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.

(xix) Any appeal against this Environmental Clearance shall lie with the National Environment Appellate Authority, if preferred, within a period of 30 days as prescribed under section 11 of the National Environment Appellate Act, 1997.

(xx) The project proponent should advertise in at least two local newspapers widely circulated in the region, one of which (both the advertisement and the newspaper) shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the Department of Environment and Climate Change, Govt. of Kerala and may also be seen on the website of the Authority at www.seiaakerala.org. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same signed in all pages should be forwarded to the office of this Authority as confirmation.

(xxi) A copy of the clearance letter shall be sent by the proponent to concerned GramaPanchayat/ District Panchayat/ Municipality/Corporation/Urban Local Body and also to the Local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The Environmental Clearance shall also be put on the website of the company by the proponent.

(xxii) The proponent shall submit half yearly reports on the status of compliance of the stipulated EC conditions including results of monitored data **(both in hard copies as well as by e-mail)** and upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the respective Regional Office of MoEF, Govt. of India and also to the Directorate of Environment and Climate Change, Govt. of Kerala.

(xxiii) The details of Environmental Clearance should be prominently displayed in a metallic board of 3 ft x 3 ft with green background and yellow letters of Times New Roman font of size of not less than 40.

(xxiv) The proponent should provide notarized affidavit *(indicating the number and date of Environmental Clearance proceedings)* that all the conditions stipulated in the EC shall be scrupulously followed.

SPECIFIC CONDITIONS

I.Construction Phase

i. "Consent for Establishment" shall be obtained from Kerala State Pollution Control Board under Air and Water Act and a copy shall be submitted to the Ministry before start of any construction work at the site.

ii. All required sanitary and hygienic measures should be in place before starting construction activities and to be maintained throughout the construction phase.

iii. A First Aid Room will be provided in the project both during construction and operation of the project.

iv. Adequate drinking water and sanitary facilities should be provided for construction workers at the site, Provision should be made for mobile toilets. The safe disposal of wastewater and solid wastes generated during the construction phase should be ensured.

v. All the topsoil excavated during construction activities should be stored for use in horticulture/landscape development within the project site.

vi. Disposal of muck during construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.

vii. Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.

viii. Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.

ix. Any hazardous waste generated during construction phase, should be disposed off as per applicable rules and norms with necessary approval of the Kerala State Pollution Control Board.

x. The diesel generator sets to be during construction phase should be low sulphur diesel type and should conform to Environment (Protection) Rules prescribed for air and noise emission standards.

xi. The diesel required for operating DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosives shall be taken.

xii. 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 the applicable air and noise emission standards and should be operated only during non-peak hours.

xiii. Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/KSPCB.

xiv. Fly ash should be used as building material in construction as per the provisions of Fly Ash Notification of September, 1999 and amended as on 27th August 2003. (The above condition is applicable Power Stations).

xv. Ready mixed concrete must be used in building construction.

xvi. Storm water control and its re-use per CGWB and BIS standards for various applications.

xvii. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.

xviii. Permission to draw ground shall be obtained from the Computer Authority prior to construction/operation of the project.

xix. Separation of grey and black water should be done by the use of dual plumbing line for separation of grey and black water.

xx. Fixtures for showers, toilet flushing and drinking should be of low flow either by use of aerators or pressure reducing devices or sensor based control.

xxi. Use of glass may be reduced by upto 40% to reduce the electricity consumption and load on airconditioning. If necessary, use high quality double glass with special reflective coating in windows.

xxii. Roof should meet prespective requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfil requirement.

xxiii. Opaque wall should meet perspective requirement as per energy Conservation Building Code which is proposed to be mandatory for all airconditioned spaces while it is aspirational for non-airconditioned spaces by use of appropriate thermal insulation material to fulfil requirement.

xxiv. The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of, fire fighting equipments, etc. as per National, Building Code including protection measures from lightening etc.

xxv. 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 the surroundings.

xxvi. Under the provisions of Environment (Protection) Act, 1986, legal action shall be initiated against the protect proponent if it was found that construction of the project has been started without obtaining environmental clearance.

II. **Operation Phase**

i. The installation of the Sewage Treatment Plant (STP) should be certified by an independent expert and a report in this regard should be submitted to the Ministry before the project is commissioned for operation. Treated affluent emanating from STP shall be recycled / reused to the maximum extent possible. Treatment of 100% grey water by decentralised treatment should be done. Discharge of unused treated affluent shall conform to the norms and standards of the Kerala State Pollution Control Board. Necessary measures should be made to mitigate the odour problem from STP.

ii. The solid waste generated should be properly collected and segregated. Wet garbage should be composted and dry/inert solid waste should be disposed off to the approved sites for land filling after recovering recyclable material.

iii. Diesel power generating sets proposed as source of back up power for elevators and common area illumination during operation phase should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use low sulphur diesel. The location of the DG sets may be decided with in consultation with Kerala State pollution Control Board.

iv. Noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.

v. The green belt of the adequate width and density preferably with local species along the periphery of the plot shall be raised so as to provide protection against particulates and noise.

vi. Weep holes in the compound walls shall be provided to ensure natural drainage of rain water in the catchment area during the monsoon period.

vii. Rain water harvesting for roof run-off and surface run-off, as plan submitted should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease. The borewell for rainwater recharging should be kept at least 5 mts.above the highest ground water table.

viii. The ground water level and its quality should be monitored regularly in consultation with Central Ground Water Authority.

ix. Traffic congestion near the entry and exit points from the roads adjoining the purposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.

x. A Report on the energy conservation measures confirming to energy conservation norms finalise by Bureau of Energy Efficiency should be prepared incorporating details about building materials & technology, R & U Factors etc and submit to the Ministry in three months time.

xi. Energy conservation measures like installation of CFLs/TFLs for the lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Use 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. Use of solar panels may be done to the extent possible.

xii. Adequate measures should be taken to prevent odour problem from solid waste processing plant and STP.

xiii. The building should have adequate distance between them to allow movement of fresh air and passage of natural light, air and ventilation.

III Post Operational Phase

Environmental Monitoring Committee with defined functions and responsibility should foresee post operational environmental problems e.g. development of slums near the site, increase in traffic congestion, power failure, increase in noise level, natural calamities, and increase in suspended particulate matter etc. solve the problem immediately with mitigation measures

For Member Secretary, SEIAA