सत्यमेव जयते

Proceedings of the State Environment Impact Assessment Authority Kerala

Present : Prof. (Dr.) K.P. Joy, Chairman; Dr. J. Subhashini, Member and Sri. P. Mara Pandiyan, I.A.S., Member Secretary.

Sub: SEIAA- Application for Environmental clearance for the proposed building project at Thonnakkal in Sy. Nos. 187, 188, 192 in Veiloor Village, Thiruvananthapuran Taluk, Thiruvananthapuran District for M/s Life Science Park -Granted- Orders Issued.

STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY

No. *No.* **851/SEIAA/ECI/2967/2015** *dated, Thiruvananthapuram 01-06-2016*

Read:-
1. Application dated 22-07-2015 from Biju B.G, Assistant General Manager (Projects), Kerala State Industrial Development Corporation Ltd (KSIDC),T.C.XI/266, Keston Road, Kowdiar, Thiruvananthapuram - 695 003
2. Minutes of the 44th meeting of SEAC held on 12/13-08-2015.
3. Minutes of the 48th meeting of SEAC held on 06/07-11-2015.
4. Minutes of the 53rd meeting of SEAC held on 25/26-02-2016.
5. Minutes of the 52nd meeting of SEIAA held on 29-04-2016.

Environmental Clearance No. 78/2016.

Sri. Biju. B. G., Assistant General Manager, Kerala State Industrial Development Corporation has submitted application seeking environmental clearance under the EIA Notification, 2006 for the proposed Life Science Park at Thonnakkal in Sy. No. 187, 188, 192 in Veiloor Village, Thiruvananthapuram Taluk, Thiruvananthapuram District, Kerala. The project comes under Category B, 8(a) of Schedule of EIA Notification 2006. No forest land is involved in the present project site and is adjacent to the NH 47. Other details of the proposal are as follows:

Basic Details of the Project	
Name of the Project	M/s. Life Sciences Park , Thonnakkal, Thiruvananthapuram.
Brief description of the project	To cope with the global advancements and to further development of the State, Kerala State Industrial Development Corporation (KSIDC) is setting up Life Sciences Park dedicated to promote research, development and technology transfer in life sciences at Veiloor village,

Basic Details of the Project		
		Thonnakkal, Thiruvananthapuram. It will provide an integrated approach to life sciences research covering all segments such as agriculture, food and nutrition, human health, animal health and industrial biotechnology. This very unique approach to integrated life sciences presence in the park will trigger unparalleled synergy among these sub-segments and provide an environment hitherto un-witnessed in any of the science parks in the Country.
Survey Numbers		187, 188, 192
Village		Veiloor
Tehsil		Thiruvananthapuram
District		Thiruvananthapuram
Is the property forest land/Govt. land/ own land		Own land
Latitude		8°38'22.11"N
Longitude		76°50'33.62"E
For Construction projects	Total Plot area	9.30777 ha
	Built up area (in m^2)	35309.7 m^2
	Vacant area/open to sky	86690.38 m^2
	No. of floors	Innovation & Incubation centre (29094.4 m^2) cellar: G+9 Floors. Non-technical Block (5315.3 m^2): G+2 Floors
	Maximum height from ground level	Technical Block-45m Non-technical Block-13.5 m
	Facilities proposed	Innovation & Incubation centre: Start-up companies, biotech processing, biotechnology labs, pre-built labs, common processing and analytical facilities, bioprocessing and hatchery units. Non-technical Block: Electrical room, training centre, park office, food court etc.
	Details of project cost	Total project cost is 151.385 Crores.
Expected cost of the project		151.385 Crores
Whether CRZ is applicable		No
Status of litigation/complaint/cases		Nil
Permanent or temporary change on land use, land cover or topography		Open land will be covered by the building and green areas.
Topography of land and elevation		The Life Science Park campus constitutes part of a gentle-undulating planation surface with an overall slope towards the west, and dissected by broad east-west valleys. The site of the project is more or less flat in its southern part, and the slope increases towards the north, where it is about 10-150, before merging with the northern valley
Vegetation		No significant threat to biodiversity of the region is anticipated from the project execution since the proposed development site is situated amidst habitation, highway, minor commercial activities and related human interferences.

Basic Details of the Project			
Nearest water body	Kadinamkulam lake-3.8Km		
Proneness to natural hazards	Nil		
Environmental parameters considered			
WATER			
Water (expected use and sources in KLD)	Construction phase	34.16 m3/day	
	Source	Existing open wells and proposed rain water harvesting pond	
	Operation phase	Non monsoon:	303m3/day
		Monsoon	251 m3/day
	Source	Municipal water supply from KWA	
Sources of generation and facilities for liquid waste treatment	During operation phase, waste water including the sewage and effluent will be generated from the facilities provided. A Sewage Treatment Plant (STP) of capacity 250 KLD is proposed for the treatment of sewage generated from the proposed facilities and an Effluent Treatment Plant of capacity 120KLD is proposed for the treatment of effluent generated from the facilities.		
Water quality meeting requirements	IS 10500 drinking water standard will be met for the water used for the drinking and other contact purpose. The treated water will be used for the flushing and landscaping purposes.		
Water Regime	Ground water potential within the laterite terrain over Precambrian rocks is moderate, and the same can be extracted through large diameter open wells. Water table was at 10.80 m during the field survey in the month of May, 2015, and the water column was only 2.80 m.		
LAND			
Access road to the site – Width & Condition	The proposed site is directly connected with NH 47. The highway in front of the site is about 12m wide. It is proposed to develop an internal road in connection with service road to the main road in order to avoid the increase in traffic.		
Storage of explosives /hazardous substances	-NA-		
Hazardous waste management	-NA-		
Facility for solid waste management	The solid waste management includes the Segregation, Storage, Transfer and Reuse/Recycle processes.		
	Organic food waste	Will be segregated stored in marked closed bins and composted	
	Sanitation waste	• Adequate no of portable toilets to be installed and the night soil disposed through septic tanks • Sullage water pass through sedimentation trenches	
	Recyclable Inorganic waste, discarded plastic bags, paper products , bottles (pet), packing	Stored in marked bins separately for subsequent transfer to certified recyclers.	

Basic Details of the Project	
	materials etc.
	The facilities set up and activities impacting environment in the operational phase of the project may be summarized as follows: • Biotechnology research and production • Herbal product development • Drug and pharmaceutical development • Animal breeding and rearing • Chemical and biological facilities for research and development • Food and Nutraceutical research Hazardous and non-hazardous materials from the activities will come under different categories: • Bio hazardous • Chemical • Cytotoxic Again the pollutant may be organic or inorganic origin. Differentiating the chemical species, they may be volatile (air pollutants), liquid (liquid pollutants finally forming disease on land) and solid pollutants. The waste management scheme is detailed to meet the diversity of pollutants (Details provided along with the application).
Significant land disturbance resulting in erosion, subsidence & instability	The site (park area) falls within the Precambrian tectonic province. The rocks are seen lateralized to various depths. A broad east-west trending fracture zone, with a width of 7-8m is seen exposed on the western wall of the excavated laterite in the southern part of the site. The Life Sciences Park campus constitutes part of a gentle-undulating planation surface with an overall slope towards the west, and dissected by broad east-west valleys. The site of the project is more or less flat in its southern part, and the slope increases towards the north, where it is about 10-150, before merging with the northern valley. Slope failure is ruled out in the area on account of the moderate slope and the occurrence of hard sticky laterite. The site falls in Zone III (moderate seismicity) in the seismic zonation map of India. Presence of a thick column of lateritic clay, which on water saturation can become very loose, warrants safeguards against ground motion acceleration in the event of local or far away seismic events.
Top soil, overburden etc.	Top soil gets compacted with the movement of vehicles, man and machineries. Top soil will be stripped out and preserved in heaps under cover which is to be restored back to the areas proposed for green belt and landscaping.
NOISE	
From operation of equipment e.g. engines, ventilation plant, crushers	Operation of heavy duty machineries such as excavators, loaders and frequent uses of transit vehicles such as lorry, tractor etc. leads to increased ambient noise level in project area
Noise pollution control measures	Workers shall not be exposed to sound of more than 85 – 90 DB for more than eight hours a day and shall be provided with ear plugs. Noise level of vehicles used for construction activities should meet the noise standards set by Central Pollution Control Board (maximum 80 dB(A)) Construction contract shall clearly specify the use of equipment emitting noise of not greater than 90 dB (A) for the eight hour

Basic Details of the Project	
	operation shift.
Noise level monitoring	Noise quality monitoring shall be conducted as per Environmental Monitoring Plan to detect noise pollution.
AIR	
Likely emissions affecting environment	Use of DG set in the construction site can lead to air pollutants emission. Also dust emission will be resulted due to transit of construction vehicles and concrete mixer.
By deposition of pollutants emitted to air into the land or into water	Nil.
Air pollution control measures	Water spraying before loading ,unloading or any other handling operations for solid containing fines - to minimize air pollution Stockpiles of aggregate shall be kept covered
Air quality monitoring	Ambient Air Quality will be monitored as per Environmental Management Plan and adequate action will be taken for compliance.
ENERGY	
Energy requirement	The initial requirement of power is estimated as 3MVA which is sanctioned by KSEB
BIODIVERSITY	
Presence of any endangered species or red listed category	Nil
Loss of native species and genetic diversity	The proposed site was a rubber plantation and garden land. There is no endangered species at the site.
SOCIAL ASPECTS	
Proximity to nearest densely populated or build-up area	The nearest residential area is about 1 km from the proposed site.
CSR related to the project	Adequate CSR activities will be formulated during operation of the Park.
GENERAL	
Details of Authorised Signatory & Address for correspondence)	Sri. Biju B.G, Assistant General Manager (Projects), Kerala State Industrial Development Corporation Ltd (KSIDC),T.C.XI/266, Keston Road, Kowdiar, Thiruvananthapuram-695 003
Details of NABET approved EIA consultant Organisation	KITCO Ltd Femiths's P B No: 4407 Puthiya Road NH Bypass, Vennala, Kochi-682028

3. The proposal was first considered by SEAC in its 44th meeting held on 12/13-08-2015 and the Committee observed that there is not enough clarity in the proposal regarding the type of

activities that will be carried out in the premises. The Committee could not appraise the proposal without sufficient details regarding the biotechnological processes, chemical experiments and the plants and animal species that would be handled within the project area and hence the proposal was deferred for submission of details such as:

1. The specific uses of the proposed buildings
2. Detailed waste management plan.
3. Management of hazardous chemical/exotic species used and generated including the types expected.
4. The energy requirement, both conventional and non-conventional including specific plans for tapping green energy.
5. Risk assessment and specific safety measures for mitigating natural and anthropogenic hazards.

4. On submission of the above details the proposal was again placed in the 48th meeting of SEAC held on 06/07-11-2015 for verification of the same and further appraisal of the project. The Committee deferred the item for field visit to assess the ground realities.

Field visit to the site was carried out and the details are furnished below:-

"Field visit to the site of Proposed Life Science Park at Thonnakkal, in Veiloor Village, Thiruvananthapuram Taluk and district was carried out on 22.01.2016 by the sub-committee of SEAC, Kerala, comprising Dr. George Chakkacherry, Sri. Ajaya Kumar and Sri. John Mathai. The Proponent Shri Biju BG and his representatives were present at the site at the time of site visit.

The project site is located at Thonnakkal by the western side of National Highway about 2 km north of Mangalapuram. The land gently sloping to the north is partly developed with a well laid road network. The eastern part is to be used for Innovation and incubation centre with cellar + G + 9 floors and a non-technical block with g + 2 floors. Animal science facility, Food and wellness centre and Medical technology facility are also planned for the future. A detailed waste management plan has now been formulated for the treatment of bio hazardous material, chemical pollutants and cytotoxic material. Air emission and effluent from laboratories are planned to be kept below the critical levels. The rear portion in the west is fragmented into plots to be leased out to other agencies. The areas have been provided with storm water drainage and rainwater harvesting/ recharge structures. One open well is seen at the site from which water is being drawn. The overburden thickness exceeds 15 m with white clay substrate. The surrounding area to the north supports fairly dense settlement. Following points may be considered for recommending the project.

1. *It is reported that ~40,000 cu.m of excess ordinary earth is likely to be generated at the site. The exact quantity need to be worked out. It can be allotted to the Govt. projects like Highway development.*
2. *Dependable sources of water must be developed. Yield test of such sources should be communicated.*
3. *The area is totally barren devoid of any tree cover.*
4. *The project plans to enter into tie up with authorised contractors for the disposal of different kinds of waste. It may be better to create facility/mechanisms for the disposal of these wastes within the campus itself".*

5. The proposal was again considered by SEAC in its 53rd meeting held on 25/26-02-2016. The proposal was appraised by SEAC considering Form I, Form IA, Conceptual plan, Field Inspection Report and the other documents and details provided by the proponent. The proposal was

recommended with specific conditions put forward by expert Committee in field inspection report noted below.

1. It is reported that >40,000 m^3 of excess ordinary earth is likely to be generated at the site. The exact quantity need to be worked out. It can be allotted to the Govt. projects like Highway development.
2. Dependable sources of water must be developed. Yield test of such sources should be communicated.
3. Sufficient green cover should be maintained by planting endemic trees as soon as possible.
4. The project plans to enter into tie up with authorised contractors for the disposal of different kinds of waste. It may be better to create facility/mechanisms for the disposal of these wastes within the campus itself. Source level treatment should ensure in campus itself rather than done throughout source.

5. The proposal was considered by the SEIAA in its 52nd meeting held on 29-04-2016. Authority examined the recommendation in detail. Disposal of major wastes such as hazardous wastes, bio-medical wastes, e-wastes etc. is by adopting the centralised treatment and disposal facility. In such cases disposal of wastes shall be in accordance with the rules governing collection, treatment and disposal. Authority decided that EC shall be issued to the project subject to above specific condition of SEAC, general conditions for building projects and the following green conditions:

Green conditions

1. Adequate rain water harvesting facilities shall be arranged for.
2. Technology and capacity of 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 facilities for the building shall be provided, as per rules governing collection, treatment and disposal.
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.

6. Environmental clearance as per the EIA notification- 2006 is hereby accorded for the proposed M/s Life Science Park at Thonnakkal in Sy. No. 187, 188, 192 in Veiloor Village, Thiruvananthapuran Taluk, Thiruvananthapuran District, Kerala, subject to the specific conditions in para 5 and green building and other conditions in para 6 above, all the environmental impact mitigation and management measures undertaken by the project proponent in the documents submitted to SEIAA, Form-1, Form-1 A, Conceptual plan, waste management proposals and other mitigation measures. The assurances and clarifications given by the proponent in the application and related documents will be deemed to be a part of these proceedings as if incorporated herein. Also the general conditions for projects other than mining appended hereto will be applicable and have to be strictly adhered to. However if any genuine complaints about the building/construction is received, E.C issued shall be reviewed.

7. Validity of this environmental clearance will be seven years from 03-06-2016, 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 conditions or genuine complaints from residents within the security area of the building.

8. The clearance issued will also be subject to full and effective implementation of all the undertakings given in the application form, mitigation measures and waste management proposal as assured in the Form-1 and Form-1 A (Environment Management Plan) as submitted will be deemed to be part of these proceedings as conditions as undertaken by the proponent, as if incorporated herein.

9. Compliance of the conditions herein will be monitored by the Authority or its agencies and also by the regional office of the Ministry of Environment & Forests, Govt. of India, Bangalore.

i) Necessary assistance for entry and inspection should be provided by the project proponent and those who are engaged or entrusted by him to the staff for inspection or monitoring.

ii) Instances of violation if any shall be reported to the District collector, Thiruvananthpauram to take legal action under the Environment (Protection) Act 1986.

10. The given address for correspondence with the authorised signatory of the project is Sri. Biju B.G, Assistant General Manager (Projects), Kerala State Industrial Development Corporation Ltd (KSIDC), T.C.XI/266, Keston Road, Kowdiar, Thiruvananthapuram-695 003

Sd/
P. Mara Pandiyan., I.A.S
Member Secretary (SEIAA)
&
Additional Chief Secretary to Government
Environment & Forest Department
Government of Kerala.

To,

Sri. Biju B.G,
Assistant General Manager (Projects),
Kerala State Industrial Development Corporation Ltd (KSIDC),
T.C.XI/266, Keston Road,
Kowdiar, Thiruvananthapuram-695 003.

Copy to:

1. MoEF Regional Office, Southern Zone, Kendriya Sadan, 4th Floor, E& F Wing, II block, Koramangala, Bangalore-560034.
2. Additional Chief Secretary to Government, Environment Department.
3. The District Collector, Thiruvananthapuram.
4. Principal Secretary, Industries Department
5. Secretary, State Pollution Control Board, Pattom, Thiruvananthapuram-4
6. The Secretary, Mangalapuram Grama Panchayt, Thiruvananthapuram.
7. Chairman, SEIAA
8. Chief Engineer, National Highways, Thiruvananthapuram- 33.
9. Website
10. Stock File
11. O/C.

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 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.

(xv) A copy of the clearance letter shall be sent by the proponent to concerned Grama Panchayat/ 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.

(xvi) The proponent shall submit half yearly reports on the status of compliance of the stipulated EC conditions including results of monitored data 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.

(xvii) 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.

(xviii) 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.

STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY KERALA

for Member Secretary, SEIAA