

ITL/TVM/FAC/SEZ/006/2022

18th May 2022

The Administrator, State Environment Impact Assessment Authority (SEIAA), K.S.R.T.C Bus Terminal Complex, 4th Floor, Thampanoor, Thiruvananthapuram - 695 001

Dear Sir,

<u>Sub: Six monthly post ECC - Operation and construction phase monitoring report for the period of October-2021 to Mar-2022 of Software Development IT Park (SEZ) at Attippra Village. Trivandrum District.</u>

Reference: ECC No: 647/SEIAA/EC1/4943/2013 dated 16.02.2016

Please find enclosed Six months' report for the project with relevant annexures.

Thanking You, Yours faithfully



Devi Paumanabhan Nair Regional Manager – Facilities

Enclosures:

1. Reports -

Annexure-1: STP outlet sample analysis report Annexure-2: UGR Out sample analysis report Annexure-3: Ambient air quality report Annexure-4: DG Stack emission report Annexure-5: Noise level monitoring report Annexure-6: Solar Power generated details



INFOSYS LIMITED

SEZ Unit Plot No. 1, Technopark Campus II Attipra Village Thiruvananthapuram 695 583, India T 91 471 398 2222 F 91 471 241 6177 Corporate Office: CIN: L85110KA1981PLC013115

44, Infosys Avenue Electronics City, Hosur Road Bengaluru 560 100, India T 91 80 2852 0261 F 91 80 2852 0362

askus@infosys.com www.infosys.com

MOEF report for Construction Phase & Operation Phase (SEZ) Oct'21 to Mar'22.

Sl No.	Conditions Imposed		Compliance taken by us	
		Water		
1.	Water requirement & sources	Water is sourced through Techn reservoir for operation. Sewage	opark which is treated and st water is treated at the STP w	ored in Underground vithin the campus.
2.	RWH units	Towards collecting rainwater. 2 ponds have been created with a total capacity of		
		36118cum inside the campus wi	ith proper side pitching and d	esilting.
3.	Facilities for liquid waste treatment	Sewage generated in the campu	is is treated through Sewage 7	Treatment Plant (STP) of
		capacity 500KLD which is based	on Membrane Bio Reactor Te	echnology (MBR). Recycled
		water from Sewage treatment p	water from Sewage treatment plant will be utilized for Irrigation, flushing & cooling	
		purposes. Treated water quality	confirms to KSPCB prescribed	d standard (Annexure 1).
		STP Outlet Report detail: Mar 20	J22.	Desults
		Parameter		
			0.5 LU 8.5	7.24
		Oil and Grease	20 mg/l	BDL
		BOD in mg/l	3 mg/l	2 10 mg/l
		F-Coli	NII	<2
		Residual Chlorine	1.0 mg/l	BDL mg/l
		COD in mg/l	20 mg/l	8.0 mg/l
		TDS in mg/l	Nil	349 mg/l
		Total Nitrogen	Not more than 10 mg/l	2.12 mg/l
		Ammonia	Not more than 5 mg/l	0.14 mg/l
,4.	Impoundment, damming, culverting,	No impoundment, damming, realignment or other changes to the hydrology of surface		
	realignment or other changes to the	water courses is done.		
	hydrology of watercourses or aquifers	We have a thodu/canal passing	through the campus, which h	as been maintained and
		water flow has been enhanced by pitching with additional culvert in the downstream		
5.	Water quality meeting requirements	Monthly monitoring is carried out through a MOEF approved external agency to ensure		
		that the water quality meets IS 2	10500 requirement and repor	ts attached for the last 6
		months (Oct'21 to Mar'22) and	maintained at site. (Annexure	e 2).
6.	Provisions for use of recycled water	within the campus.		
LAND				
7.	Access road to the site –Width &	Main Access road to the site is t	hrough NH-66 by-pass and se	rvice road available for easy
	Condition	entry to the site.		
		For safety movement of the peo	lestrians and vehicles, crash b	parriers and traffic signals
		are placed along the service roa	d and at the NH Sides	
8.	Storage of explosives/hazardous	All precautionary measures have	e been taken and also obtaine	ed valid license from
	substances	Petroleum and Explosives Safety 2030.	/ Organization (PESO) for stor	age of HSD valid till 31 st Dec
9.	Facility for solid waste management.	In Operation phase as part of so	lid waste management, segre	gation is achieved at source
		by provision of signage's, color of	coded bins and the same is sto	ored and disposed asper the
		standards. The food waste gener	rated is fed in to 350kg capaci	ty digester biogas plant
		within the campus.		
		Type of Waste Avg quan	tity (Apr'21 to Sep'21)	
10		Food Waste 600.91kg	/month	
10.	Proneness to natural hazards	As per the Indian Standards Seis	mic Zoning Map, the campus	area comes under Zone –
		Scheduled Mock drills are condu	icted so as to make the emply	avers aware on what to do
		in case of an emergency Safe A	ssembly point identified to an	commodate all the
		employees safely in one place in	a case of an emergency.	

11.	Topsoil, overburden etc.	The topsoil is used for landscapin	g work.		
	Overburden is used for back filling and road construction purposes inside campus i			e campus itself.	
	AIR				
		Dust emission from construction phase	Provision of wind bre barrication for contro Monthly monitoring of campus, and reports (Oct'21 to Mar'22) in	akers(GI Sheets, olling dust is prov of ambient air is attached for last (Annexure 3).	/green shade) as ided. done across the 6 months
12.	Air quality meeting requirements	Emissions from combustion of fossil fuels	There is no major air except DG sets and vic construction and ope DG's are used as back Grid power failure. An height is provided for measures. Monthly n done by an MOEF ap reports attached for and report maintaine Stack Monitoring Report	pollutant genera ehicular moveme ration phase up power gener ppropriate stacks DG's as Air pollu- nonitoring of stac proved third part ast 6 months (Ou- d. (Annexure 4). t Detail – Mar'22 (ting source ent during ation in case of s with stipulated ution control ck emission is cy Vendor and ct'21 to Mar'22) DG 1 PII)
			Parameter	Stipulated Limit	Results
			Particulate Matter	75mg/Nm ³	65.08 mg/ Nm ³
			Sulphur Dioxide	Nil	21.38 mg/ Nm ³
			Oxides of Nitrogen as NO2	710 ppmv	17.06 ppmv
			Carbon Monoxide	150 mg/ Nm ³	120.16 mg/Nm ³
			Non-methane Hydrocarbon	100 mg/ Nm ³	5.48 mg/ Nm ³
13.	Noise level meeting requirements	 During Construction Phase: There will be some noise generated due to cutting of marble and other stone materials Uninterrupted movement of heavy and light vehicles at high speeds may cause increase in ambient noise levels on the project road (No significant impacts) 	 Marble and the operation thereby dec pollution. W Personal Pro- It is ensured are used for materials th noise levels, limit of 20kr keep a check Transportati Monthly am and reports (Oct'21 to M 	Tiles are located onal phase, ie at o reasing the effect orkers are equip otective equipment that good, cond transporting cor ereby resulting in also strictly follo n/hr and securiti k on vehicle speet ion is during non- bient noise mon attached for last far'22). (Annexu	far away from designated area t of noise ped with int's (PPE's). itioned vehicles astruction of decrease of owing the speed es posted to oding. -peak hours. itoring is done, 6 months re 5).
14.	Likely emissions effecting environment	There is no major air pollutant generating source. DG's are used as backup power generation in case of Grid power failure. Appropriate stacks with stipulated height is		up power ed height is	
		provided for DG's as Air pollution control measures. Monthly monitoring of stack emission is done and reports attached for last 6 months (Oct'21 to Mar'22) and report maintained. (Annexure 4).			
15.	Hazardous waste generation and management	Hazardous wastes generated are collected, stored and disposed through CPCB & KSPCB authorized vendors. A designated Scrap Yard available inside campus for storing the Hazardous and Non-Hazardous waste generated.			

		ENEGRY		
16.	Energy requirement & source	Source of Power supplied to the campus is through Technopark. DG has been installed which is used as backup power generation in case of Grid power failure. Average Power consumption for (Oct'21 to Mar'22) is 346,016 kwh/month i.e., 5 % reduction compared to the period, Apr'21 to Sep'21.		
17.	Extent of usage of alternative energy resources	Grid connected Solar panels of 826kwp has been installed which caters to 29% of total campus power consumption for the period of (Oct'21 to Mar'22) Monthly Power generation from solar power has been attached. (Annexure 6). Average Solar power generated for (Oct'21 to Mar'22) is 99216kwh/month. In addition to this, Solar power generated on weekends and public holidays are exported to Technopark.		
	BIODIVERSITY			
18.	Presence of any endangered species or red listed category	Unique initiative towards safeguarding Rare Endangered and Threatened (RET) species of native plants / trees and medicinal plants is taken up. A dedicated area of approx. 1.5 acres is planted with RET species and medicinal plants also.		
		RET Trees/Saplings		
		Acalypha fruticosa		
		Aegle marmelos		
		Alstonia scholaris		
		Aphanomixis polystachya		
		Barringtonia racemosa		
		Bridelia retusa		
		Calophyllum apetalum		
		Encoto suporba		
		Garcinia cambogia		
		Garcinia talbotii		
		Hopea parviflora		
		Hopea ponga		
		Humboltdia decurrens		
		Hydnocarpus pentandra		
		Justicia gendarussa		
		Lophopetalum wightii		
		Madhuca longifolia		
		Michelia champaca		
		Murraya paniculata		
		Pterocarpus santalinus		
		Syzygium cumini		

		Terminalia arjuna	
		Terminalia bellirica	
		Vateria indica	
		Woodfordia fruticosa	
		Wrightea tinctoria	
		Medicinal Plants	
		Aloe vera	
		Asparagus officinalis	
		Chamaecostus cuspidatus	
		Chrysopogon zizanioides	
		Gymnema sylvestre	
Hemigraphis		Hemigraphis colorata	
		Hibiscus	
		Justicia adhatoda	
		Lawsonia inermis	
		Mussaenda glabrata	
		Ocimum tenuiflorum	
		Piper betle	
		Piper longum	
		Piper nigrum	
		Plumbago zeylanica	
		Selaginella bryopteris	
		Stevia rebaudiana	
		Strobulanthus heiniyanus	
19. 20.	Loss of native species and genetic diversity Likely displacement of fauna	As a responsible corporate large number of saplings of native fruit species like Mangosteen, Ramaphal, Seethaphal, Malasyian Jamba, Water apple, Jaathi, Anjali, Badam, Bird's cherry, Coconut tree, Fig, Kodam puli, Banana, Agasthya, Tamarind, Carambola, Pulinchikka, Jamun, Mosambi, Mangoes, Pomegranete, Amla, Sapotta, Guava, Jack fruit, Soursop and Ramboottan Native trees such as Rain tree, Elanji, Gulmohar, Banyan tree, Cassia, Areca nut, Ne Mani marathu and Chembakam are planted and shrubs like Hibiscus, ixora, lantana jasmine, Rose, Neela koduveli, Krishna Neelam, Rangoon creeper, Phyllanthus, Kilul Plumeria, Bougainvilla, Nerium, Parijathakam, Jasmine, Teccoma, Kanakambaram e are planted inside campus so as to conserve the biodiversity. Not Applicable.	em, I, Wild kki, etc
	,		
21.	Any introduction of alien/ invasive species	Nil.	

22. Proximity to nearest habitation Campus is located within Trivandrum Corporation limits surrounded by UST, NH Bypa and Residential houses. 23. CSR Activities Conducted Donation events at 6 locations across Kerala with 260 benefician Donated items include – Wheelchairs 	SOCIAL ASPECTS		
23. CSR Activities Conducted Donation events at 6 locations across Kerala with 260 beneficiar Donated items include – Wheelchairs	22. Proximity to nearest habitation	Campus is located within Trivandrum Corporation limits surrounded by UST, NH Bypass and Residential houses.	
 Hospital Cots and Beds Library Books Bench and Desk Fan & Meals Sanitary Napkin Celebrate with Sanjeevani gives Trinfoscians the opportunity to celebrate special occasions with the less fortunate. A total of 10 such events were conducted, impacting over 480 individuals. Make-A-Wish is a programme organized by Sanjeevani. The team collects wishes from people living in different institutions like old age homes, orphanages, and special schools. The beautifully wrapped gifts are delivered the people around Christmas time, thus bringing joy to the people. This year, total of 27 such events were conducted, thus impacting 730+ individuals. Flood relief support was provided to the Koottickal community where clothes were distributed to the camp, thus impacting more than 350 individuals. SAMYAM is an anti-drug awareness campaign aimed to educate school students about the health hazards associated with the use of drugs and the importance of leading a healthy and safe lifestyle. The awareness sessions an handled by doctors, counsellors, and the Kerala Police team. Vijnana Team of the academic track has provided more than 120 online sessions to students in the region. The regular weekend classes focused on subjects ranging from math to history. Quiz events, Onam celebrations and talent day competitions were conducted by the track to students. A total of 5 notebook donations were conducted by the track to students. A total of 5 notebook donations done at 2 different locations which benefitte around 85 members 	23. CSR Activities	 Conducted Donation events at 6 locations across Kerala with 260 beneficiaries. Donated items include – Wheelchairs Hospital Cots and Beds Library Books Bench and Desk Fan & Meals Sanitary Napkin Celebrate with Sanjeevani gives Trinfoscians the opportunity to celebrate special occasions with the less fortunate. A total of 10 such events were conducted, impacting over 480 individuals. Make-A-Wish is a programme organized by Sanjeevani. The team collects wishes from people living in different institutions like old age homes, orphanages, and special schools. The beautifully wrapped gifts are delivered to the people around Christmas time, thus bringing joy to the people. This year, a total of 27 such events were conducted, thus impacting 730+ individuals. Flood relief support was provided to the Koottickal community where clothes were distributed to the camp, thus impacting more than 350 individuals. SAMYAM is an anti-drug awareness campaign aimed to educate school students about the health hazards associated with the use of drugs and the importance of leading a healthy and safe lifestyle. The awareness focused on subjects ranging from math to history. Quiz events, Onam celebrations and talent day competitions were conducted among the students. A total of 5 notebook donations were conducted by the track to students. A total of 5 notebook donations were conducted by the track to students. A total of 5 notebook donations were conducted by the track to students. Grocery & Essentials Donations done at 2 different locations which benefitted around R5 members 	

24.	Environment Management plan/ Eco	As part of Environment management, the following measures have been taken:	
	restoration plan (brief details)	• Conducting environmental quality monitoring for emissions and effluents as	
		per the PCB standards through MOEF authorized vendor	
		 Awareness mailers in environment protection and effective waste 	
		management circulated to employees on periodic basis	
		 Rolled out Surveys to employees on fighting against Climate change while working from home 	
		• Waste segregation done at source by implementing color coding for different types of waste	
		 Hazardous waste segregated and stored in designated areas and disposed of through authorized vendors 	
		Usage of green sealed chemicals for housekeeping purpose	
		• Conducted online sessions on aquaponics, roof top farming and fish farming to enhance awareness of agriculture during working from home	
		• Implemented collection of Covid 19 related wastes such as masks and gloves in exclusive waste bins to ensure safe handling	
		• Sewage generated in the campus is treated through Sewage Treatment Plant (STP) which is based on Membrane Bio Reactor Technology (MBR).	
		• As a responsible corporate, we have increased the renewable source (sola	
		826kWp which caters to 29% of total power consumption.	
		Considering this pandemic situation, an effective monitoring and study of	
		indoor air quality is done in addition to the regular checks.	
		 Food waste generated is fed to Biogas plant wherein the generated biogas is 	
		used for cooking purpose	
25.	Biomedical waste management	Bio-medical waste generated within the campus is disposed through IMAGE. Color	
		coded bins are placed inside Med center with markings for proper segregation at	
		source.	
		A software application "IMAGE HCE PORTAL 1.0" has been implemented for tracking the	
		end disposal of Biomedical waste.	
		Abiding by the Biomedical waste rule, used masks and gloves are separated from the	
		All Riomedical waste and quantified and disposed inrough invide.	
		Vaccination	
		Details on the disposal is been submitted to KSPCB through Form IV annually.	
		Bio Medical Waste Avg (Oct'21 to Mar'22)	
		27.52 kg/month	
2.6			
26.	E-waste management	E-wastes generated are collected, stored and disposed through CPCB & KSPCB	
		Details on the disposal has been submitted to SPCR through Form 3 annually	
~-			
27.	Litigation, if any, against the project	No.	

SPECIFIC CONDITIONS: -

<u>Sl. No.</u>	Conditions	
1.	The Emergency parking facility proposed should be ear marked.	Complied, it is ear marked. In every floor of Multi level parking lot (MLPL) a designated emergency parking space is identified, and ear marked.
2.	Adequate drinking water and sanitary facilities should be provided for construction workers at	Drinking water facilities are provided at construction site. Sanitary facilities are also provided and are connected to the STP.

	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.	
3.	Disposal of muck during construction phase should 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.	The muck will be used for refilling the low-lying areas in the project premises. Used for the development of internal roads.
4.	Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate water courses and the sump sites for such materials must be secured so that they should not leach into the ground water.	Construction spoils and hazardous materials generated are stored in a safe and secured manner. The placement is on concrete base thereby eliminating any chance of contamination to the water courses.
5.	Any hazardous waste generated during construction phase, should be disposed of as per applicable rules and norms with necessary approvals of Kerala State Pollution Control Board.	Complied, disposed off as per applicable KSPCB rules and norms received.
6.	The diesel generator sets to be used during construction phase should be low Sulphur diesel type and should conform to Environment (Protection) rules prescribed for air and noise emission standards.	DG's are used as backup power generation in case of Grid power failure. DG's are located in secluded areas with appropriate acoustic enclosure and stack
7.	Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.	Complied, pre-mixed concrete is used.
8.	Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfil requirement.	Complied, Energy Conservation Building Code is followed.

GENERAL CONDITIONS: -

Sl. No.	Conditions	
(i)	Rain water Harvesting capacity should be installed as per the prevailing provisions of KMBR/ KPMR, unless otherwise specified elsewhere.	2 ponds have been created with a total capacity of 36118cum inside the campus with proper side pitching and desilting towards collecting rainwater. Open drains are also created along the rear periphery wall towards collecting the run-off water from the neighborhood.
(ii)	Environment Monitoring Cell as agreed under the affidavit filed by the proponent should be formed and made functional.	Yes, formed and 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.	Trees such as Water apple, Fig, Jamun, Mango, Badam and Amla are the avenue tree cum fruit trees and trees like Raintree, Gulmohar, Spathodia, Elanji, Ficus, Japanese Fern, Wild Neem, Kadamba, Ezhilampala, Bauhunia, Cardia, Terminalia, Golden shower, Bird's cherry and Calophyllum are grown along the roads and pathways for shade. Shade trees has been provided along the NH service road like Mimusops elengi and Ficus benjamina with flowering plants like Ixora, Wild Jasmine, Lantana, Tecooma, Nikotia, Nerium, Caesalpinia and Ficus panda are planted in the service roads and median outside campus for public environmental welfare.

(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	Grid connected Solar panels of 826kwp has been installed which caters to 29% of total campus power consumption. Solar power generated on weekends and public holidays are exported to Technonark
(v)	Safety measures should be implemented as per the Fire and Safety Regulations.	Complied, safety measures are implemented as directed by Department of Fire & Rescue services. Annual Renewal of the Fire NOC certificate is carried out by FRS after necessary site inspections. All buildings are equipped with Sprinkler systems, hose reels, wet risers, smoke & fire alarm system. External fire hydrants provided around the buildings across the campus. Exclusive fire tanks maintained atop all the high-rise buildings in addition to the fire tanks available in our Underground reservoirs. Fire extinguishers are provided as per IS 2190 standard and sand buckets are provided at prominent places.
(vi)	STP should be installed and made functional as per KSPCB guidelines including that for solid waste management	Complied, Sewage generated in the campus is treated in the Sewage Treatment Plant (STP) of capacity 500KLD. The STP is based on Membrane Bio Reactor (MBR) technology. Recycled water from Sewage treatment plant will be utilized for landscaping, flushing and cooling tower purpose. Treated water quality confirms to KSPCB required standard. Proper facilities are provided inside campus for solid waste management. The food waste generated is fed in to 350kg capacity digester biogas plant biogas. The dry waste generated is disposed through authorized dealer. Adequate number of collection bins are provided for bio- degradable waste. Have also ensured that the solid waste generated is segregated at source.
(vii)	The conditions specified in the Companies Act, 2013 should be observed for Corporate Social Responsibility.	Complied.
(viii)	The proponent should plant trees at least 5 times of the loss that has been occurred while clearing the land for the project.	Complied, saplings comprising of native fruit species and shrubs has been planted inside campus, to conserve the biodiversity.
(ix)	Consent from Kerala State Pollution Control Board under Water and Air Act(s) should be obtained before initiating activity.	Complied, Consent obtained.
(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.	Complied. Possessing valid license from Petroleum and Explosives Safety Organization (PESO) for storage of HSD valid till 31 st Dec 2030.
(xi)	In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Authority.	No change in the Scope of the proposed project.
(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.	Yes, agreed.

(xiii)	The stipulations by Statutory Authorities under different Acts and Notification 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.	Complied.
(xiv)	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). It shall simultaneously be sent to the respective Regional Office of MoEF, Govt.of the India and also to the Directorate of Environment and Climate Change, Govt. of Kerala.	Half yearly report submitted to Regional Office of MOEF and to Directorate of Environment and Climate change, Govt of Kerala.
(xv)	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.	Complied, the details of EC are prominently displayed.