

ITL/TVM/FAC/SEZ/015/2020

21st May 2020

The Director – IA, III.

Room No. 524, 5th Floor,

The Ministry of Environment & Forest (MOEF),

Paryavaran Bhavan, C.G.O Complex, Lodhi Road,

New Delhi – 110 033

<u>Sub: Six monthly post ECC - Operation and construction phase monitoring report for the period of October-2019 to March-2020 of Software Development IT Park (SEZ) at Attippra Village. Trivandrum District.</u>

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

Dear Sir,

With reference to the above, please find enclosed the copy of the report submitted to SEIAA Trivandrum on 21st May 2020 for the project with relevant annexures.

Thanking You, Yours Faithfully

Devi Padmanabhan Nair Regional Manager – Facilities

Enclosures:

1. Copy of the letter submitted to SIEAA.

2. 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 1, 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



ITL/TVM/FAC/SEZ/014/2020

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

Dear Sir,

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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 Padmanabhan Nair

Regional Manager – Facilities

Enclosures:

1. Reports -

- Annexure-1: STP outlet sample analysis report
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MoEF report for Construction Phase & Operation Phase (SEZ) Oct'19 to Mar'20.

SI No.	Conditions Imposed	Compliance taken by us		
		Water		
1.	Water requirement & sources	Water is sourced through Technopark which is treated and stored in Underground		
		reservoir for operation. Sewage water is treated at the STP within the campus.		
2.	RWH units	2 ponds have been created with a	• •	
<u> </u>		proper side pitching and desilting		
3.	Facilities for liquid waste treatment	Sewage generated in the campus		
		capacity 500KLD which is based o water from Sewage treatment pla		
		purposes. Treated water quality of		
	·	STP Outlet Report detail: Feb 2020		Dea standard (Annexure 1).
		Parameter	Stipulated Limit	Results
		рН	6.5 to 8.5	6.58
		TSS in MG/L	20 mg/l	BDL
		Oil and Grease	1 mg/l	BDL
		BOD in mg/l	3 mg/l	2.5mg/l
		E-Coli	NIL	Absent
		Residual Chlorine	1.0 mg/l	0.6 mg/l
		COD in mg/l	20 mg/l	18 mg/l
		TDS in mg/l	2100 mg/l	702 mg/l
		Odour	No Odour	No Odour
,4.	Impoundment, damming, culverting,	No impoundment, damming, real	ignment 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 th	rough the campus, which	has been maintained and
	•	water flow has been enhanced by In addition to this, yearly desilting		
5.	Water quality meeting requirements		The state of the s	
J.	Trater quality meeting requirements	Monthly monitoring is carried out through a PCB approved external agency to ensure that the water quality meets IS 10500 requirement and reports attached for the last 6		
		months (Oct'19 to Mar'20) and m		
6.	Provisions for use of recycled water	Recycled water from STP is utilize		
		within the campus.		
		LAND		
7.	Access road to the site –Width &	Main Access road to the site is thr	ough NH-66 by-pass and s	service road available for easy
	Condition	entry to the site.		
		For safety movement of the pede		barriers and traffic signals
8.	Storage of explosives/bazardous	are placed along the service road		and reliable and form
0.	Storage of explosives/hazardous substances	All precautionary measures have I Petroleum and Explosives Safety (· ·
	Substances	2020.	organization (PESO) for St	orage of HSD valid till S1" Dec
9.	Facility for solid waste management.	In Operation phase as part of solid	waste management seg	regation is achieved at source
	, server server mensegerment	by provision of signage's, color co		
		standards.		
		The food waste generated is fed in	n to 350kg capacity digest	er biogas plant wherein the
		biogas generated is used for cooking purpose		
		Type of Waste	Avg quantity (0	Oct'19 to Mar'20)
		Food Waste 11783kg		
10.	Proneness to natural hazardous.	As per the Indian Standards Seism	ic Zoning Map, the campu	ıs area comes under Zone –
III, moderate damage risk zone.				
		Scheduled Mock drills are conducted so as to make the employees aware on what to do		
		in case of an emergency. Safe Assembly point identified to accommodate all the		
<u> </u>		employees safely in one place in case of an emergency.		

11.	Top soil, overburden etc.	The top soil is used for landscaping work. Overburden is used for back filling and internal road construction purpose.			
	AIR				
1000	Dust emission from construction Provision of GI Sheets/green shade as barrication for				
		phase	controlling dust. Also quality is done and reattached. (Annexure Ambient Air Quality Ambient Air Quality	o regular monitor eport maintained e 3). Report: Feb'20	ing of air I. Reports
12	A in a cuality, we acting a particular party	Emissions from combustion of fossil fuels	There is no major ai except DG sets and construction and op It is ensured that tramaterials is done on	vehicular moveme eration phase. Insportation of co Ily during non-pea	ent during nstruction lk hours.
12.	Air quality meeting requirements		DG's are used as bac Grid power failure. A stipulated height is a control measures. M emission is done and months (Oct'19 to N (Annexure 4). Stack Monitoring Repo	Appropriate stacks provided for DG's fonthly monitorin d reports attached far'20) and repor	s with as Air pollution g of stack d for last 6 t maintained.
		,	Parameter Particulate	Limit 75 mg/ Nm³	Results 28 mg/
	•		Matter	75 mg/ mm	Nm ³
	,		Sulphur Dioxide	1200 mg/ Nm ³	70 mg/ Nm ³
			Oxides of Nitrogen	710 ppmv	30.4ppmv
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) 	the operation area thereing pollution. We personal Propersonal Pro	oise monitoring is ached for last 6m . (Annexure 5).	designated effect of noise ped with ent's (PPE's). tioned vehicles nstruction n decrease of owing the securities ehicle during non- done and onths (Oct'19
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 provided for DG's as Air pollution control measures. Monthly monitoring of stack emission is done and reports attached for last 6 months (Oct'19 to Mar'20) and report		d height is of stack	
		maintained. (Annexure 4).		,	

15.	Hazardous waste generation and	Hazardous wastes generated are collected, stored and disposed through CPCB & KSPCB	
	management	authorized vendors. A designated Scrap Yard available inside campus for storing the	
		Hazardous and Non Hazardous waste generated.	

		ENEGRY	The Company of the Co	
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'19 to Mar'20) is 625007 kwh/month.		
17.	Extent of usage of alternative energy resources	Grid connected Solar panels of 826kwp has been installed which caters to 16% of total campus power consumption for the period of (Oct'19 to Mar'20) Monthly Power generation from solar power has been attached. (Annexure 6). Average Solar power generated for (Oct'19 to Mar'20) is 102049.67kwh/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 is taken up. A dedicated area of approx. 1.5 acres is planted with RET species and medicinal plants like galangal, black vasa, ayapana, aloe vera, vasaka, pepper mint. List of RET Species Planted:		
		Plant Name	Common Name	
		Hopea parviflora	Thambakam	
		Vateria indica	White Dammar	1
		Aphanamixis polystachya	Chemmaram	1 .
		Alstonia scholaris	Indian Devil Tree	
* -		Calophyllum Inophyllum	Pinna	1
		Pterocarpus santalinus	Red sandal wood	Trees
		Kingiodendron pinnatum	Kodapaala	
		Vateria indica	White Dammar	
		Hopea parviflora	Thambakam	
		Hopea ponga	Kambakam	1
		Mesua ferrea	Indian Rose Chestnut	
		Semecarpus auriculata	Cari	
		Humboldtia decurrens	Kunthani	
		Buchanania lanceolate	Mala Mavu	
19.	Loss of native species and genetic diversity	As a responsible corporate large number of saplings of native fruit species like Jamun, Mosambi, Mangoes, Custard Apple, Pomegranete, Amla, Chikoo, Gova, Neem, Kadamba, Jack fruits and shrubs like Ixoro, Jasmine, Kanakambaram etc are planted inside campus so as to conserve the biodiversity.		
20.	Likely displacement of fauna	Samanea saman and Not Applicable.		
21.	Any introduction of alien/ invasive species	Nil.		

		SOCIAL ASPECTS
22.	Proximity to nearest habitation	Campus is located within Trivandrum Corporation limits surrounded by UST, NH Bypass and Residential houses.
22.	Proximity to nearest habitation CSR Activities	 Regular weekend classes and Talent day activities for school kids from schools like Government School for the Visually Impaired, Government Model Girls Higher Secondary School, Prathibha Roshini & Govt. Higher secondary school. Football kits were donated to schools in association with GOFC Team Sanjeevani donated Note Book for students from Economically backward families at Govt schools. Christmas and New year celebrations was organized by Sanjeevani for the beneficiaries of Vijnana program Workshops on craft making was organized for students thus enabling them to improve their extra-curricular activities. Sanjeevani organized a campus visit for the beneficiaries of Vijnana program and the kids were able to take part in "Hour of Code" at Infosys campus. News Paper Drive (Aagaaz) - Newspaper collected through employees were donated to SCT College of Engineering for recycling and converting it as notebooks. Seminar on CSR was organized as part of Aagaaz for students from John Cox Memorial Institute of Technology. Social visit was organized in view of world orphan's day along with college students from LBS ITW and John Cox Engineering College. A study tour was organized for students from Government Model Girls Higher Secondary School, Pattom, Thiruvananthapuram Science exhibition organized by students from LBS College of Engineering and Technology. Cloth Donation - Clothes & toys collected through the donation drive in office were distributed to beneficiaries at Balikamandiram Donation Drive - Essentials were supplied to organization during lockdown season Make a wish drive- Gifts handed over to beneficiaries according to the wish list received from organization Toy Donation - Toy donation was organized on account of Children's Day Blood Donation Camp - Sanjeevani, in association with Sree Chitra Tirunal (SCT)
		Cleanliness Drive - A cleanliness drive was organized for couple of wards and Skywalk in the Govt. Medical College, Trivandrum & Sanjeevani volunteers conducted a cleanliness drive for the benefit of students who attend weekend Vijnana sessions
		 Samyam - Healthcare Track - The focus of the campaign was to educate the students on the health hazards associated with the use of drugs and the
		 importance of leading a healthy and safe lifestyle. Enablement Workshop - An enablement workshop was conducted by L&D for monthly connect with employees

		Several scholarships were provided to students as part of academic
		development goal. Along with the scholarships notebooks was also distributed
		to identified students.
		 Design thinking workshop was conducted by the campus CSR wing for
		employees on enhancement of voluntary blood donation.
24.	Environment Management plan/ Eco restoration plan (brief details)	As part of Environment management the following measures have been taken: Creation of Mist chamber, enabling propagation of plants in-house. As a responsible corporate, the following steps are taken in Plastic Waste management. Replacement of plastic garbage bag with bio-degradable bags & gunny bags. PET drinking water bottles replaced with Glass bottles & stee water bottles. Elimination of plastic cups, stirrers, spoons and plates at Food court. Replacement of Single use plastic pens with Paper pens. Replacement of PVC flux banners with Cloth banners. Milk packets taken back by vendors at Food court. Proper segregation of plastic wastes done at source. Floriculture week celebrated at Campus. The efforts also got published in Newspaper. Rain water harvesting week was celebrated at Campus. A Rain water harvesting & water safety promotion desks/kiosks was put up by invited external members. Game stalls was put up during the week. An expert talk was organized on understanding the ways to harvest water at home. A pencil drawing competition was organized with the theme "Rain water harvesting". A wareness mailers was sent across to employees on the same. New innovative mailers were sent across to employees making them understand the importance of Power Saving. The sludge generated at STP treated at Green house structure thereby getting manure. Pood waste generated is fed to Biogas plant wherein the generated biogas is used for cooking purpose. Open drains are also crated along the rear periphery wall towards collecting the run-off water from the neighborhood. Sprout, the organic vegetable farming initiative is being adopted in approx. 20 cents of land. It's an employee driven initiative where employees actively participate, learn and work on the field to grow vegetables. The main motive is to encourage the employees to take up organic farming at their homes. Organic Vegetable stall inside campus as part of Employee faming initiative "Sprout".
.5.	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, also barcode system has been implemented for tracking end disposal. All Biomedical waste handlers has been immunized with Hepatitis B and Tetanus
		Vaccination. Details on the disposal is been submitted to KSPCB through Form IV annually. Bio Medical Waste Avg (Oct'19 to Mar'20) 92.93 kg/month.

26.	E-waste management	E-wastes generated are collected, stored and disposed through CPCB & KSPCB authorized vendors. Details on the disposal is been submitted to SPCB through Form III 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.	Yes, 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 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.	Drinking water facilities are provided at construction site. Sanitary facilities are also provided and are connected to the STP. Labors are provided with labor camp facility with dedicated room, cooking area, drinking water facility and toilets.
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 Technopark Premises.
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 off as per applicable rules and norms with necessary approvals of Kerala State Pollution Control Board.	Yes, 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 proper acoustic facility and with appropriate stacks with stipulated height which acts as Air pollution control measures.
7.	Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.	Yes, 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.	Yes, Energy Conservation Building Code is followed.

GENERAL CONDITIONS: -

Sl. No.	Conditions	
(i)	Rain water Harvesting capacity should be installed as	2
	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 desillting towards collecting rain water. 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.	Avenue trees like Mimusops elengi, Ficus benjamina and Ficus panda are planted in the service roads outside campus for public environmental welfare. Trees like Neem, Kadambu, Ezhilampala, Lakshmitharu, Jack fruit, Fig, Coconut, Water apple are the avenue trees cum fruit trees and trees such as samanea saman, spathodia, Mimusops elengi are also planted inside campus which is preserved and nurtured well. Shade trees has been provided along the NH service road. The NH
		has been planted with flowering plant in the concern with NHAL.
(iv)	The project shall incorporate devices for solar energy	Grid connected Solar panels of 826kwp has been installed which
	generation and utilization to the maximum possible	caters to 15% of total campus power consumption.
	extent with the possibility of contributing the same to	Solar power generated on weekends and public holidays are
	the national grid in future.	exported to Technopark.
(v)	Safety measures should be implemented as per the Fire and Safety Regulations.	Yes, safety measures are implemented as directed by Department of Fire & Rescue services.
		No Objection certificate from FRS is available for all the buildings. Annual Renewal of the 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
	4	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 fire
(vi)	STP should be installed and made functional as per	buckets are provided at prominent places.
(",	KSPCB guidelines including that for solid waste	Yes, it's installed. Sewage generated in the campus is treated in the
	management	Sewage Treatment Plant (STP) of capacity 500KLD. The STP is based
	g-man	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 wherein the biogas generated is used for cooking purpose.
	·	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.
		5

	The living of the Communica Act 2012	Yes, Complied.
(vii)		res, complied.
	should be observed for Corporate Social	
	Responsibility.	y It as a state of notice fruit species and shrubs has been
(viii)		Yes, saplings comprising of native fruit species and shrubs has been
	the loss that has been occurred while clearing the	planted inside campus, so as to conserve the biodiversity.
	land for the project.	
(ix)	Consent from Kerala State Pollution Control Board	Yes, obtained.
(/	under Water and Air Act(s) should be obtained before	·
	initiating activity.	
(x)	All other statutory clearances should be obtained, as	Yes, obtained. Possessing valid license from Petroleum and
(^)	applicable, by project proponents from the respective	Explosives Safety Organization (PESO) for storage of HSD valid till
	competent authorities including that for blasting and	31st Dec 2020.
		31 BCC 2023.
	storage of explosives.	No change in the Scope of the proposed project.
(xi)	In the case of any change(s) in the scope of the	No change in the scope of the proposed project.
	project, the project would require a fresh appraisal by	
	this Authority.	
(xii)	The Authority reserves the right to add additional	Yes, agreed.
	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.	
/viii'	The stipulations by Statutory Authorities under	Yes, complied.
(XIII	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.	
(xiv	The proponent shall submit half yearly reports on the	Half yearly report submitted to Regional Office of MoEF and to
•	status of compliance of the stipulated EC conditions	Directorate of Environment and Climate change, Govt of Kerala.
	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.	
	Environment and Climate Change, Govt. of Refala.	
(xv) The details of Environmental Clearance should be	Yes, the details of EC are prominently displayed.
'^v	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.	
	INEM NOTHALL TOTAL OF SIZE OF HOLIESS CHAIL 40.	