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KSPCB/FORM-V/2018-19/01 **26th June, 2019**

The Regional Officer
KSPCB, Bommanahalli,
Nisarga Bhavan, 2nd Floor,
Thimmaiah Road, 7th 'D' Main,
Shivanagar, Opp. Pushpanjali Theatre,
Bengaluru - 560010

Dear Sir/Madam,

Subject: Submission of Environmental Statement (Form-V) for Main Campus, Bangalore

With reference to above subject, we hereby submitting the Environmental Statement (Form-V) for the FY 2018-19 for our Infosys Main Campus at Electronic city, Bangalore. Enclosed the copies of the same for your reference.

1. Form-V for Main campus, Bangalore
2. Copy of Stack monitoring report
3. Copy of Ambient air quality analysis report
4. Copy of Treated sewage analysis report

Yours Sincerely,

For INFOSYS LIMITED

Bhawesh Kumar

BHAWESH KUMAR

AVP - REGIONAL HEAD – FACILITIES

27/6/19

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Form - V

Environmental Statement

April 2018 - March 2019

ANNEXURE

ENVIRONMENTAL STATEMENT FORM-V
(See rule 14)

Environmental Statement for the financial year ending with 31st March

PART-A

i. Name and address of the owner: occupier of the industry	M/s Infosys Limited Plot No 44 Electronic City, Hosur Road Bangalore – 560100
Operation or process.	Software Development
ii. Industry category Primary-(STC Code) Secondary- (STC Code)	Red category
iii. Production category. Units.	Software Development
iv. Year of establishment	1994
v. Date of the last environmental statement submitted.	17.09.2018

PART–B

Water and Raw Material Consumption:

i. Water consumption in m3/d

Process: NA

Cooling: NA

Domestic: Approximately. 943 m^3/day

Enclosures:

1) Copy of Test Report for Treated Sewage
2) Copy of Test report for D.G set emissions
3) Copy of Test report for Ambient air quality

Name of Products	Process water consumption per unit of products output	
	During the previous financial year	During the current financial year
1.		
2.		

ii. Raw material consumption

Name of raw materials*	Name of Products	Consumption of raw material per unit of output	
		During the previous financial year	During the current financial year
NA			

** Industry may use codes if disclosing details of raw material would violate contractual obligations, otherwise all industries have to name the raw materials used.*

PART-C

Pollution discharged to environment/unit of output
(Parameter as specified in the consent issued)

Pollutants	Quantity of Pollutants discharged (mass/day)	Concentration of Pollutants discharged (mass/volume)	Percentage of variation from prescribed Standards with reasons
(a) Water	As per the test reports		
(b) Air	As per the test reports		
(c) Sludge	Not applicable	1.2 kgs/ltr	No Variations

PART-D

HAZARDOUS WASTES

[As specified under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016].

Hazardous Wastes	Obtained limits rom KSPCB	Total Quantity (Kg)	
		During the current financial year (FY 2017-18)	During the current financial year (FY 2018-19)
1. Used oil	16 KL/A	9.02 KL	10.28 KL
2. Oil soaked cotton waste	0.5MT/A	0.0043 MT	0.09 MT
3. DG oil filters	0.7MT/A	0.397 MT	0.49 MT
4. Batteries		2792 No's (UPS batteries) 290 Kgs (Dry Batteries)	1390 No's (UPS batteries) 330 Kgs (Dry Batteries)
5. E-waste		75.91 MT	78.62 MT
6. Discarded/ Paint Containers	50,000 No's/A	4,831 No's/A	5001 No's/A
7. Paint residue		NIL	930 Kgs

PART – E

SOLID WASTES:

Solid Wastes	Total Quantity (Kg)	
	During the previous Financial year (FY 2017-18)	During the current Financial year (FY 2018-19)
a. From process	Food waste: 7,27,367.50 Kgs/A Metal waste: 52,490 Kgs/A Plastic waste: 18,040 Kgs/A Wood waste: 46,150 Kgs/A Paper waste: 2,14,360 Kgs/A Glass waste: Nil Thermocol waste: 450 Kgs/A Coconut shells: Nil	Food waste: 6,40,593.35 Kgs/A Metal waste: 88,760 Kgs/A Plastic waste: 26,250 Kgs/A Wood waste: 1,12,100 Kgs/A Paper waste: 2,46,750 Kgs/A Glass waste: 25,088 Kgs/A Thermocol waste: 2,895 Kgs/A Coconut shells: 2,090 Kgs/A

	Garden waste: 5,43,980 Kgs/A STP Sludge waste: 2,52,660 Kgs/A	Garden waste: 5,06,650 Kgs/A STP Sludge waste: 4,18,924 Kgs/A
b. From Pollution Control Sources- STP	Sludge from STP 650 to 700 Kgs/day	Sludge from STP 1000 to 1300 Kgs/day
c. Quantity recycled or re-Utilized within the unit.	Food waste is treated in house through biogas and OWC. STP sludge is treated through sludge solar drying bed All other solid wastes are disposed to the registered recyclers	Food waste is treated in house through biogas and OWC. STP sludge is treated through sludge solar drying bed All other solid wastes are disposed to the registered recyclers

PART -F

Please specify the characteristics (in terms of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

Waste is segregated at source. The segregated waste is routed to waste yard and disposed to authorized recyclers. Also, the color code for bins has been devised and implemented for different types of waste.

The color codes are as follows:

- Green for bio-degradable waste
- Red for toxic waste
- Blue for dry recyclable waste
- Grey for e-waste

Bio-medical waste and sanitary waste generated in the campus will be taken out by an agency authorized by PCB.

A focused approach to solid waste management has resulted in better disposal systems. Solid waste included all the Non-hazardous waste viz., paper/cardboard waste, plastic waste, metal waste, wood waste and garden waste.

We have in-house Organic waste converter, Biogas plant to treat all our food waste within the campus. Also, we have advanced MBR technology in STP which treats the sewage and reduces the generation of sludge. The treated water is utilized for landscaping, Flushing and cooling towers.

We have dedicated staff to manage the Effluents, Emissions, Hazardous/Bio-medical/Solid waste and all contractual are trained on waste management.

Hazardous waste:

All the hazardous wastes generated are segregated and disposed through authorized recyclers for recycling and NO waste is dumped underground.

Soil contamination and pollution prevention measures: All waste are stored at dedicated storage areas, provided with secondary containment which are leachate proof.

On/off-site management procedure: Waste generated is segregated at source and disposed through authorized recyclers. Bio-medical waste & Oiled cotton waste are sent to KSPCB authorized recycler for incineration with control mechanisms in place.

The process of waste segregation at the source is in place. The segregated waste is routed to waste yard and disposed to authorized recyclers. Following are the type of waste and disposal methodology.

Waste Type	Disposal frequency	Disposed to
Used oil	As and when generated	Arun Industries
E waste	As and when generated	E-Parisara Pvt. Ltd.
Cotton waste	As and when generated	Gomati Incino
UPS batteries	As and when generated	Sandeep Lead Alloys
DG batteries	As and when generated	
Dry Batteries (AA, AAA cells)	As and when generated	
DG filters – Oil & Air	As and when generated	Gomati Incino
Plastic Paint cans/ containers	As and when generated	Archana Enterprises
Metal Paint cans/ containers	As and when generated	
Housekeeping Chemical containers/ cans	As and when generated	
Biomedical waste	Daily	Maridi Eco Industries Pvt. Ltd.
Sanitary waste	Daily	

Non-Hazardous waste:

Waste like paper, plastic, metal, wood, Thermocol and glass are segregated disposed to registered recyclers/ re-processors for further disposal

Also, this year 2018-19 we have taken an initiate to identify and implement a process for proper segregation & disposal of mixed waste. Hence, we have segregated wastes like milk covers, egg shells, coconut shells and glass waste. Further to this, we have identified a new vendor and empaneled Hasirudala in collaboration with ELCITA for proper disposal of identified waste.

E-waste:

E-waste is disposed only through KSPCB/CPCB authorized vendors. To collect the e-waste generated, bins with grey color code is placed at prominent locations, the employees and contractual staff can put the e-waste into this bin, which prevents e-waste mixing with general waste.

Food waste:

OWC- Organic Waste Converter (OWC) of 2tons per day capacity is installed and is used to convert organic waste into homogenized odor-free output through Bio Mechanical process and is converted into COMPOST within two weeks which can be used as manure for landscape. Also our Garden waste has been mixed along with food waste and fed into the OWC. Over whole one year we have generated 211.20 MT of compost from the OWC.

Also, we have our own Bio gas plant of 2tons capacity wherein the 800 to 1000 kgs of Food waste is fed into digester. The technology used here is "Dry digestion" where there is minimal/no use of water compared to any conventional system. The gas production efficiency is 50% more than any standard system. We have generated 26670.72 m^3 of gas for FY 2018-19 and the produced gas is used daily for the cooking needs in the kitchen where burners are installed.

Also, we have introduced hydrolyzer unit in Biogas plant to store the excess food waste and have an efficient treatment of waste, we have installed additional storage unit called hydrolyzer of capacity 2T. This has reduced the overflow of food waste at biogas gas plant area and reduction of waste sending it to third party. Apart from this, we have another Biogas plant of 1T capacity at our Sarjapur location ensuring 100% utilization and treatment of food waste within the campus.

PART-G

Impact of the pollution control measures taken on conservation of natural resources and consequently on the cost of production.

- 84% of energy consumed is sourced from wheeled (green power) and solar energy sources thereby reducing the GHG emissions
- Low Sulphur diesel is used for DG sets and boiler operation.
- 15 Nos. of battery operated Golf Carts are used for movement during visits
- Material movement inside campus is through battery operated goods carrier
- 600 number of cycles are provided to commute inside the campus.
- Biogas plant is used to manage our food waste, which is operated under "Dry Digestion" where there is minimal/no use of water.
- Organic waste converter is used to treat the food waste generated and the compost produced as output is used as manure for landscape.
- Sludge waste is treated in solar sludge drying bed which comprises of Building envelope and Electric mole (Automatic Robots). The main source for entire process is solar energy

and due to this 35% or less moisture content is expected after sludge drying. The dried sludge is used as manure for in house landscaping.

- Usage of STP treated water is used across buildings in Campus which has reduced approximately 1500 KL/m of fresh water. Also, we are utilizing 40% of STP treated water for flushing, HVAC, Solar panel cleaning, Biogas floor and vessel cleaning.

PART – H

Additional measures/investment proposal for environmental protection including abatement of pollution.

- Infosys has been certified to ISO 14001 & OSHAS 18001.
- We carry out environmental quality monitoring for Emissions and effluents as per the PCB standards.
- We are enabling processes for improving our system for monitoring water and waste water recycling at our campus with a view of achieving long term sustainability.
- We have installed Solar panels of total capacity 1.932 MW.
- We have installed 2T Organic waste converter at our campus to manage our food waste and garden waste.
- Also, we have installed our own Biogas plant of 2000 kgs/day in campus and 1000 kgs/day at our Sarjapur location manage food waste. Also, to store the excess food waste we have installed additional storage unit of 2T capacity called Hydrolyzer at Campus.
- We are committed to conserving and promoting biodiversity at our campus and we constantly encourage our employees to do the same.
- Plantation across the campus has been increased which is of native to region and to meet the demand we have developed in house nursery.
- Our company has implemented measures to operate based on climate change and protect environment by the following measures:
    - Sustainable resource usage
    - Pollution prevention
    - Implementation of newer and efficient technologies for reduced resource use / recycling and reuse of resources or waste
    - Use of renewable energy
    - Nurturing and promoting biodiversity conservation
    - Goals and projects to achieve carbon neutrality

PART-I

MISCELLANEOUS:

Any other particulars in respect of environmental protection and abatement of pollution

Environmental Management System is implemented and certified as per ISO14001:2015 standards. This management system is the prime vehicle for us to implement environmental best practices in all our activities, products and services. We have collaborated with multiple stakeholders and devised appropriate interventions for reducing carbon footprint, energy and water

and resource consumption. We have established employee participation and consultation channels to understand employee and community expectations. More details are given below on initiatives implemented towards resource conservation, prevention of pollution, waste management, biodiversity, green buildings etc.

- We celebrated World Environments day on 5th June 2018 with the theme of "Beat the Plastic" Various sessions were conducted; stalls were installed of the products which are alternative to Plastic.
- As committed on WED (World Environmental Day), we have implemented biodegradable plastics which helps in phasing out of single use & non-recyclable plastics. Also, we found the alternatives for the presently used items inside the campus along with the objectives taken to reduce use of Plastic in campus in a phased manner. Below mentioned are the details for the same.
    - We have replaced of PET water bottles by Glass or Aluminum bottles and the procurement of PET water bottles.
    - The alternative for Mineral water bottles is Glass bottles. Also, are using Borosil bottles in meeting rooms except for foreign clients
    - Stirrers (Pantry and FCs) are replaced by wooden Stirrers.
    - Plastic carry bags (FC vendors) are replaced by cloth or paper bags
    - All PET bottled cool drinks are replaced with Aluminum cans/tins.
    - The replacement of Usage of Food sachets (herbs, Sause etc.) with bigger containers is in progress.
    - The garbage bin liners are replaced with Bio-plastics.
    - Use of Plastic flex banners are replaced with Fabric banners
- Transport goes " GREEN "- Introduced electric vehicles for employee transportation(Cabs) for Ecity – 16 vehicles, BCIT – 13 vehicles
- We have made our campus free from Smoking Zones.
- We have introduced Bio crux VPM machine for compressing wastes thereby reducing the transportation load.
- More numbers of trees and plants are planted across campus. In FY 2018-19 we have planted 225 with an emphasis on native and endangered species common to the geographical zone.
- We have different varieties of trees planted in campus like fruit trees, flower tree and shade trees. Also, shrubs, ground covers and creepers are planted across campus.
- 25% reduction in usage of tissue papers at our campus compared to last year.
- We are ensuring 100% segregation of waste at source.
- We continue to ensure the Color coding for different type of waste which is segregating at the building level
- We have consistently ensured that we reduce, reuse and recycle & dispose the waste responsibly.
- Hazardous wastes are stored and disposed to authorized recyclers only, in adherence to applicable legislation.
- 100% of our garden waste is processed through Organic Waste Converter
- We use green sealed chemicals for our housekeeping purpose. Also, we are substituting hazardous chemicals with other alternatives or less hazardous chemicals – Refrigerant gas replacement

- We have empaneled new vendor for E- waste disposal.
- As part PET neutral program initiated by Biocrux India for FY-2018-19, our organization has ensured that none of the bottles generated within our premises are reused/misused/Sent for landfill. By flaking the bottles instantly at source, we have been able to save Co2 emission, fuel burning & water in recycling process. During this, the team has collected 1,17,000 bottle flakes and the positive impact on environment from this are as follows:
  - 4.40 tones reduction in Co2 emission.
  - 1.32 cubic yard reduction in land fill
  - 101.7 liter saving in fuel consumption.

ECO-INITIVATIVES:

- **National Energy Conservation day:** As part of this celebration on 14th December every year we drive awareness about the importance of energy efficiency and conservation, its use in our day-to-day life, the scarcity and its impact on sustainability of global ecosystems, as well as the overall effort towards climate change mitigation.

  Our DC has reduced its energy consumption by 50% since FY 2007-2008 and 10.04% over FY 2017-2018. The present energy consumption at Bangalore DC is at 134 units per employee per month (the lowest it has been since 2007-2008!) and we thank you for your co-operation and participation.
  Initiatives at Bangalore DC that helped bring us to our current consumption include:
  - Replacing around 32000 CFLs with LED bulbs
  - Upgrading UPS in buildings with energy efficient products
  - Installing solar panels on roof tops in Campus
  - Enabling Building Management System – which helps in monitoring & maintaining indoor air quality
  - Optimizing energy through scheduled operations of HVAC based on climate conditions and on occupancy as per the set points
  - We have set up 30MW solar farm in Sira in Karnataka.

  We have set up stalls on the main campus & IIPM location exhibiting energy conservation products such as lighting, solar trap for pests, home appliances and more! We hope to see you there!
  Also, we have given some tips to conserve energy as below:

  S ✓ Your light bulbs to LEDs
  W ✓ To natural light as much as possible
  I ✓ To star rated Electrical equipment's
  T ✓ Off unused Electricals & Electronics
  C ✓ Off your computer when it's not in use
  H ✓ Off lights & fans when you do not need them

- **Earth Hour @ Bangalore DC:** At our campus, Earth Hour has been observed on March 30, 2019 between 8:30pm to 9:30pm. by switching off all non-essential lights during this time.

- **World Water Day** - As part world water day on 22nd March, we continue to build awareness on water conservation initiatives and how each one of us can consciously contribute towards water conservation. The theme for this year was ***"Leaving no one behind"***, explores how we can ensure availability and sustainable management of water for all by 2030. Also, Department of Rural Development & Panchayat Raj (RDPR), Government of Karnataka, has launched "Jalamrutha", and declared 2019 as the "Karnataka's Year of Water".

  At Infosys, we stand committed and have set new benchmarks in the management of Environment, Health and Safety, and it's stated objectives. At our DC, we have reduced the water per capita by over 55% in the last 11 years. Our water conservation strategy encompasses actions to reduce, recycle and reuse. Various initiatives have been implemented in the space of water conservation.

  At Heritage food court lane, we have exhibited vendor stalls with respect to initiatives/products towards water conservation at our homes and also information on initiatives taken at Infosys to reduce the water consumption.

- **World Environmental Day**: The UN theme for World Environment Day 2018 is **Beat Plastic Pollution.** We know how much harm is caused by plastic on our environment. So, on June 5th 2018, we pledged to a new beginning by refusing plastic if we are not reusing it. We have planned initiatives for all Infoscions, their family and extended community to engage in and benefit from the knowledge you learn from the initiatives. Few activities are held at our Infosys Bangalore DC campus and the details is as mentioned below:

Activity	Details	Date
Team building activity	Use any plastic material to make a large art installation in your work place. Good artwork will be rewarded	June 4th, 2018
Artwork by children	Encourage your children to create art using plastic and share it with us	Submissions close on June 5, 2018
Your signature matters	Sign the online campaign to ban single usage plastic	Open from June 4 to June 12, 2018
Visit our stalls	Use and promote items which can be alternates to plastic	June 5, 2018
Join the carnival	Enjoy the fun games with plastic	June 5, 2018

- Srishti - Bangalore DC Eco Club in collaboration with Sirigandha has provided us an opportunity by creating Art out of Waste contest.
- As part of Sustainability initiative, the team has introduced a session on Natural Farming techniques by Shri Prasanna Murthy, who is the Karnataka State Zero Budget Natural Farming Movement Coordinator for South Karnataka.
- We have conducted workshop for employees to make eco-friendly idols to stay environment friendly on September 11th and 12th, 2018
- Srishti team at Bangalore DC has organized Seed Ball Drive on July 1st, 2018, to increase the green cover in the Electronics City through the local schools and other nearby locations.
- Srishti team at Bangalore DC Eco Club has organized another workshop on terrace and kitchen garden to encourage more Infoscions to connect with nature and move towards a sustainable lifestyle.
- Carpooling has been increased which led to low carbon emission.
- As part of Eco-initiatives we continue to spread awareness amongst employees on conservation of natural resources.
- The sustainability team has taken an initiative to support Circular economy by donating things that may be useful for others. **Let us reuse** is an effort to make a parallel economy which is not cash based, but trash based. The idea of this collection is to promote reusing any item which is in good condition instead sending to landfill.
- There was an awareness session by Vani Murthy on easy ways to start home composting and over the last 3 years she has inspired many with her cause of waste management, home composting and terrace gardening.
- **Projects on Swacch Bharat mission & Environment**: We have been awarded 'Samartha Bharata Award' – For being part of planting 1 crore tress in a year.
    - Kudlu Lake rejuvenation. One year all our volunteers were taking care of the lake and today – it has almost a drinkable water. 600 Saplings planted around lake and all are now 6 to 7 feet height.
    - Swachh Bharat Mission – One person taken Sabatical and was handling complete Yadgir district under government of India.
    - Swacch bharat (120 volunteers) – Pavagada, Tumkur, Sira for awareness drive on 02nd October week for cleanliness, Sanitation, etc.
    - Seeds balls drive – we conduct seed ball drives.
    - Pond rejuvenation at Pavagda (Environment) – 4 ponds rejuvenated now wildlife like Peacock, migrated birds, Bear have come back.
    - CIVIC problems – Garbage bin sorting, Teaching Localities on importance of waste segregation etc.
    - Few locations in Bangalore – People through garbage in areas which are not meant – we manage to get that place clean. We work during nights on Potholes filling.
    - Lake rejuvenation - restoring ground water, working with ELCIA and BIOCON.
    - Garbage clean up at KR market, Electronic city near Dmart area.

Significant measures to conserve Power

- Enabling BMS system for B6 & 11, B44 - 45, – Data center and Convention Centre
- Re-engineering and replacement of Services/Systems in old food courts with automation
- Re-engineering and replacement of Dx HVAC system to chilled water for work stations at Park 4 (B32-33)
- Revamp of services (equipment) in the old existing Data centers to meet the Tier-3 Data center standards - AC upgradation.
- Installation of EC fans for PARK 3 & B12
- UPS upgradation in B- 28 & 29
- Reduction of lighting load by
    - Removing of Excess light fixtures
    - Variable speed drives are installed in all the equipment at EC 53 building to optimize energy consumption and eliminate wastage
    - Wireless and battery-less energy harvesting sensors and switches are implemented at EC53 and EC47 building to control lighting
    - Operational Control of Lighting Systems
    - Occupancy sensors for lighting in rest rooms, conference rooms and cabins
    - Enabling building management system to monitor temperature and air quality at workstations & at critical areas

Significant measures to conserve Water

- Rain water harvesting and reusing from natural pond after treatment on need basis and reusing for WC flushing, Chiller RO and Road wash
- Creating provision for utilizing STP treated water for flushing at B#30 to 33 Rest rooms
- Installation of pressmatic taps at all wash basins in park 5 & 6 and food courts
- Fire Hydrant main line leakage rectification at Park 3 to reduce the water leakage and
- Replacing entire ring main.
- Creating provision for utilizing the treated water Park-3 Cooling tower
- Upgradation of WTP pipeline Park 1 to reduce water leakage
- All park 1 area upgradation to dual piping system and to provide STP treated water for flushing by converting old GI pipes to MDPE pipes