GOVERNMENT OF INDIA
Ministry of Environment and Forests
(Regional Office, Southern Eastern Zone)
Chennai-600 034
MONITORING REPORT

PART – I

Date: 29 September 2020

1	Project type	Software Industry
2	Name of the project	Software Development Complex (SEZ) at Mahindra Industrial Park, Chengalpet Taluk, Kancheepuram District, Tamil Nadu by M/s. Infosys Technologies Ltd.,
3	Clearance letter no. & date	MoEF Lr. No. 21-539/2007-IA.III, Dated: 08th May 2008
4	Location: District & State / UT	Mahindra Industrial Park, Chengalpattu Taluk, Kancheepuram District, Tamil Nadu
5	Address for correspondence:	Infosys Limited, Techno Park SEZ, Mahindra World City, Natham Sub Post, Chengalpet, Kancheepuram District-603 002, Tamil Nadu
6	Project cost as originally planned and subsequent revised estimates and the years of price reference	INR 1581 Crores
7.	Date of commencement of construction:	15th May 2008

PART –II
CONSTRUCTION PHASE

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

Consent for Establishment obtained from Tamil Nadu Pollution Control Board under Air & Water act and copy of the same submitted to MoEF **(Annexure-I)**

Consent for Establishment under Air Act- Order No.4602 dated 24.10.2008
Consent for Establishment under Water Act- Order No.4658 dated 24.10.2008

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

All the necessary_sanitary facilities are made available for construction work force. The sewage generated is treated in the existing STP (1.5 MLD capacity) and the treated water is used for gardening and toilet flushing.

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

Yes, provided. Medical center available with Doctor and Nurse. Three ambulances are available for emergency requirements. On an average 20 construction workers were engaged **(Annexure-II)**

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

Raw water from MIPL (Mahindra Industries Private Limited) undergoes RO treatment and the treated water was provided for drinking purpose. Average water consumption for construction workers was 400 liters/day. The sewage was treated in the existing STP. Construction waste generated from activities were disposed properly by agency.

v) All the topsoil excavated during construction activities should be stored for use in within the project site.

Excavated earth used for leveling the low-lying areas in the project premises. Top soil used for horticulture / landscape development preserved and used for developing green cover. Note: No excavation work happened in last two years in construction site

vi) Disposal of muck, Construction debris 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.

Debris generated in construction phase were used for landfilling.

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

Ground soil analysis and water sampling was done and ensured that there is no threat to ground water quality. During last six months no major construction activities took place.

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

Adequate care was taken so as not to cause any adverse impacts on the environment. Wastes was stored in a designated waste yard with covering and impervious flooring and disposed through authorized recycler. Hazardous waste like used oil and discarded empty paint containers were disposed to TNPCB authorized recyclers.

ix) Any hazardous waste generated during construction phase, should be disposed off as per applicable rules and norms with necessary approvals of the Tamil Nadu Pollution Control Board.

The hazardous waste generated were disposed to authorized recyclers approved by Tamil Nadu Pollution Control Board

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

No DG used during last six months as there is no major construction work inside campus

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

Complied with Legal Statutory requirements

xii) Vehicle hired for bringing construction material to the site should be in good condition and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.

Complied and ensured movement of construction materials with good construction vehicles and operated only during non-peak hours

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

All possible measures were practiced to control air & noise pollution. Ambient air quality, Noise levels are monitored regularly and the results show that they are all within limits **(Annexure- III)**

xiv) Fly ash should be used as building metrial in the construction as per the provisions of Fly Ash Notification of September 1999 and amended as on 27th August, 2003. (The above condition is applicable only if the project site is located within the 100 KM of Thermal Power Stations).

33% of fly ash will be used in concrete.

xv) Ready mixed concreate must be used in building construction.

Reportedly followed.

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

Rainwater collected is stored in rain harvesting ponds to recharge ground water table. Storm water drains are routed to pond of capacity 1705 KL towards ground water recharge **(Annexure-II).** 64 injection wells are installed across the campus to improve ground water level**. b**

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

Only ready mix concrete (RMC) used for construction.

xviii) Permission to draw ground water shall be obtained from the competent Authority prior to construction operation of the project.

No Ground water used.

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

The only wastewater generated is sewage and the same was reportedly treated in STP.

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

Taps were provided with Pressure reducing valves and flow restrictors for water saving. Sensor controlled urinals were also provided.

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

Low emissivity glass is used & Common areas will not be air conditioned but be naturally ventilated. Glass percentage – 16.8%

xxii) Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill requirement.

Our building roofs have an over deck insulation of R-15 (extruded polystyrene of 75mm thickness). This makes the roof U-value lower than ECBC recommended U-value, thus complying with the requirement

xxiii) Opaque wall should meet prescriptive requirement as per Energy conservation building code which is proposed to be mandatory for all air conditioned space while it is aspirational for non- air conditional spaces by use of appropriate thermal insulation material to fulfill requirement.

Complied

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

The external walls of our buildings comprise of double wall (concrete blocks) construction with a 50mm insulation (R-10) and an air cavity of 50mm. This wall assembly has a U-value lower than ECBC recommended U-value, thus complying with requirement.

xxv) Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.

Regular supervision done to avoid disturbance to the surroundings.

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

Started construction only after obtaining Environmental Clearance

Part –III
OPERATION PHASE

i) The installation of the sewage treatment plant (STP) should be certified by an independent expert and a report in the regard should be ensured to the ministry before the project is commissioned for operation. Treated effluent emanating from STP shall be recycled/reused to the maximum extent possible. Treatment of 100% grey water by decentralized treatment should be done. Discharge of unused treated effluent shall conform to the norms and standards of Tamil Nadu Pollution Control Board. Necessary measures should be made to mitigate the odour problem from STP

2 STPs are in operation with capacity as follows

Sewage Treatment Plant	Capacity
STP	1.5 MLD

Sewage generated in the campus is treated in the Sewage Treatment Plant (STP) by conventional aeration treatment process. Recycled water from Sewage treatment plant is being utilized for landscaping and based on the availability and quality it is also being used for other purposes like toilet flushing. Treated water quality is monitored for conformance to TNPCB requirements **(Annexure-III)**

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

Solid Waste generated is segregated at source. Adequate number of collection bins are provided for biodegradable and non-biodegradable based and is being sent for recycling. Sludge is dried and used as manure for in-house landscaping. The non-biodegradable waste is segregated and disposed to authorized recyclers

Details of waste generated for year April 2020 to September 2020 entire campus

Type of Waste	Average Quantity (Kg) per Month
Paper/Carton box	7626
Plastic	674
Wood	1774
Metal	11750
Food waste	12920

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

with Tamil Nadu Pollution Control Board. Water Harvesting system and energy conservation measures, like installation of solar panels for lighting the areas outside the building, should be integral part of the project design and should be in the place before project commissioning.

Diesel generators with 19 MW capacity kept as backup power source for illumination, elevators and other building usage. The height of the DG stack is maintained as per TNPCB norms. Using low sulphur HSD for DG operation. Installed around 1891.86 KW solar panels in the terrace of the buildings to get solar power.

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

Acoustic enclosure & chimney has been provided for the DG sets (19MW) as per prescribed standard so as to ensure that noise levels are within prescribed standards specified in TNPCB. Also noise monitoring is being done at defined intervals both by in-house and external agency. Checks are conducting periodically **(Annexure -III)**

DG Set Capacity

Power Block	**Diesel Generator**	**Capacity**
Power Block – 1	DG-1	2000 kVA
	DG-2	2000 kVA
	DG-3	2000 kVA
	DG-4	2000 kVA
	DG-5	2000 kVA
Power Block – 2	DG-1	3000 KVA
	DG-2	3000 KVA
	DG-3	3000 KVA
	Total	**19,000 KVA**

Noise level monitoring Day and Night time
Day time – dB(A)
Night time – dB(A)

Power Blocks	Insertion loss in dB(A)
Power Block-1	27.5
Power Block-2	28.06

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

Green belt has been developed along the periphery of the plot. We have planted nearly about 30,000 trees in and around campus 32 acres has been developed for this project **(Annexure-II)**

Additionally, 5 Trees planted in the period of April 2020 to September 2020.

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

Rain water storm lines provide around the campus and connected to rain water harvesting pond. Excess water from pond drained through the weep holes in compound wall to the nearby water catchment area (lake).

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

Rain water harvesting is done through two ponds created at campus. Storm lines are kept clear without suspended matter. Injection wells (64 Nos) has been installed at campus.

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

Not authorized to use ground water. Procuring water from MIPL and tankers for domestic usage. Ground water analysis being done through authorized vendor and there is no contamination observed.

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

Traffic management plan has been implemented to ensure smooth flow of traffic without hindrance at the entrance Security guards deployed at all entry and exit points. Separate two-wheeler and four wheeler parking slots are provided inside the campus for parking. Two-wheeler parking- 1492 Nos; Four wheelers- 685 Nos (inclusive of MLVP)

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

Report submitted to MoEF.

xi) Energy conservation measures like installation of CFLs\TFLs for the lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Use CFLs and TFLs should be properly collected and disposed /sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination. Use of solar panels may be done to the extent possible.

Solar panels installed for in building terrace for 1891.86 kW. LED lights installed in buildings to reduce power consumption. Reduced power consumption per capita up to 50% compared to 2007-2008 baseline. Used bulbs are collected and disposed to authorized recyclers for recycling.

- Operational efficiency and control
- Conversion of CFL lights to LED lights
- Air cooled chillers to water cooled chillers

- Solar water heaters as a replacement of geyser in ECC and gym shower
- Timer controls and occupancy sensors for lighting
- Implementation of BMS towards efficient controls
- Occupancy sensors
- High efficiency DGs, transformers and UPS
- VAVs for HVAC
- Chiller performance optimization

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

STP constructed in open space with proper air flow, proper aeration system in Equalization and Aeration tank to reduce odor.

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

Building constructed as approved by DTCP. Adequate distance maintained between the buildings for fresh air and passage of natural light, air and ventilation.

.

Part –IV
GENERAL CONDITIONS

i) The Environmental safeguards contained in the application should be implemented in letter and spirit.

We are certified to ISO14001 and OHSAS18001 standards.

Infosys is the first IT company in the world to publish its sustainability report based on the latest Global Reporting Initiative (GRI) G4 comprehensive framework. GRI is the most widely respected sustainability reporting framework, worldwide.

Infosys is the First Indian Company to Join RE100 Renewable Energy Campaign. As part of our commitment to RE100, We are already reduced per capita electricity consumption by 50 per cent from 2007-2008 levels.

The environmental safeguard measures are put in place as mentioned in the application, few of the major ones are as stated below-

- 1.5 MLD Sewage Treatment Plant
- Waste is segregated at the source disposed through authorized vendor
- Hazardous waste is disposed through TNPCB authorized recyclers
- The DG set room is isolated from the outside environment and proper acoustic arrangements are made to control the noise generated from the rooms
- Rain water is routed through two pond for ground water recharging

LEED Platinum & GRIHA rated Green Buildings:

All our software development blocks constructed after 2011 are certified with LEED Platinum rated Green Buildings by IGBC – highest in India for office buildings. At Chennai, software development blocks 9 is certified with LEED Platinum rating with total built-up area of 26,500 sqm.

GRIHA (Green Rating for Integrated Habitant Assessment) for SDB-7&8 for minimizing building resource consumption

Some salient features of the building:

Energy conservation measure:

- Prevent heating coming into the building with the objective to reduce the load on air conditioning. This is achieved through efficient insulated walls, painting roofs with heat reflective paints and shaded double layered glass window
- Significant reduction of energy consumption on lighting system
    - Building is designed to use maximum day light for illumination
    - Occupancy sensors to switch off lights when not in use
- Use of energy efficient equipment and devices for lighting, air conditioning and other utilities
- Converted Air cooled chiller to water cooled chillers
- Optimization of chiller performance
- Building Management System

Water conservation measures

- Flow regulators on taps and pressure reducing valves to reduce fresh water consumption
- Sensor based water taps and urinals
- Entire waste water generated is treated and used for toilet flushing and landscaping

Other measures:

- Project has used the materials with recycled content
- Low emitting materials, adhesives and sealants are used

ii) Provisions shall be made for the supply of fuel (Kerosene or cooking gas); utensils such as pressures cookers etc.to the laborers during the construction phase.

Most of the workers were from local area and hence reportedly there is no need of providing fuel & utensils.

iii) Six monthly monitoring reports should be submitted to the Ministry and its Regional Office

The six monthly monitoring reports are being submitted to MoEF, Regional Office, Chennai.

iv). Officials from the Regional Office of MoEF, Chennai who would be monitoring the implementation of Environmental safeguards should be given full cooperation, facilities and documents / data by the project proponents during their inspection. A complete set of all the document submitted to MoEF should be forwarded to the CCF, Regional Office at MoEF, Chennai.

Necessary co-operation is extended and records are submitted.

V). In case of any changes in the scope of the project, the project would require a fresh appraisal by this Ministry

No change in the scope.

vi) The Ministry reserves the right to add additional safe ground measures subsequently, if found necessary, and to take action including revoking of the environmental clearance under the provision of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.

Agreed & complied.

vii). All other statutory clearances such as the approval for storage of diesel from Chief Controller of Explosive, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act 1972 etc. shall be obtained, as applicable by project proponents from the competent authorities.

All necessary statutory clearances are obtained before construction of building and other utilities **(Annexure-I)**

viii). These stipulations would be enforced among others under 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, 1994 including the amendments

The industry is complying with all the rules and regulations laid for the project.

ix) Environmental clearance is subject to final order of the Hon'ble Supreme court of India in the matter of Goa foundation Vs. Union of India in Writ Petition (Civil) No: 460 of 2004 as may be applicable to this project.

Agreed & complied.

x) Any appeal against this Environmental Clearance shall lie with the National Environment Appellate Authority, if preferred, with in a period of 30 days as prescribed under Section 11 of the National environment Appellate Act, 1997.

Agreed & complied.