



Ref No: HL/ENV/2022-23/07

Date: 30/05/2022

To,

Additional Principal Chief Conservator of Forests (C),

Ministry of Environment, Forest and Climate Change, Regional Office (SZ), Kendriya Sadan, 4thFloor, E&F Wings, 17thMain Road, Koramangala II Block, Bangalore – 560034

Sub.: Submission of half yearly Compliance report to Environmental Clearance Conditions Ref.: Environmental Clearance issued by Ministry of Environment, Forest and Climate Change

(IA- II Section) vide letter F. No. J-11011/374/2016-IA-ll(I) on 16th February, 2018 & No: SEIAA 48 IND 2020, Date: 4th Sept 2020

Dear Sir,

With reference to above referred Environmental Clearance received from Ministry of Environment, Forest and Climate Change (IA- II Section) for Expansion cum Modification of Pharmaceutical Unit at Plot No. 82/A, 83-P, 83-P1 & 72, KIADB Industrial Area, Jigani, Anekal Taluk, Bangalore Urban (Karnataka) by Hikal Limited unit I. We are herewith enclosing the half yearly compliance report (Oct -2021 to Mar-2022) for the conditions given in Environmental Clearance referred above along with necessary enclosures.

We kindly request you to acknowledge receipt of the same.

Yours faithfull

For HIKAL LIMPLE

Encl: As above

C.C:

To

1. **Member Secratory, Karnataka State Pollution Control Board,** "Parisara Bhavan", #49, 4th & 5th Floor, Church Street, Bangalore – 560 001.

 Central Pollution Control Board, Zonal Office, NisargaBhavan, Thimmaiah Road, 2nd Main Rd, Shivanagar, Basaveshwar Nagar, Bengaluru, Karnataka 560079.

3. Inspector General of Forest (WL), MoEF&CC, Indira Paryavaran Bhawan, New Delhi

Hikal Ltd.

Factory Unit I: 82/A, KIADB Indl. Area, Jigani, Anekal Taluk, Bangalore - 560 105, India. Tel.: +91-80-3986 1100, +91-8110-421100. Fax: +91-80-2782 5378

Admin. Office: Creat Eastern Chambers, 6th Floor, Sector 11, CBD Belapur, Navi Mumbai - 400 614, India.Tel.: +91-22-3097 3100, Fax: +91-22-2757 4277

Regd. Office: 717, Maker Chamber - 5, Nariman Point, Mumbai - 400 021, India, Tel.: +91-22-3926 7100, +91-22-6630 1801, Fax: +91-22-22833913

www.hikal.com info@hikal.com CIN: L24200MH1988PTCO48028



Half Yearly EC Compliance Report

Expansion cum Modification of Pharmaceutical Unit

At

Plot No. 82/A, 83-P, 83-P1 & 72, KIADB Industrial Area, Jigani, Anekal Taluk, Bangalore Urban (Karnataka)



HIKAL LIMITED UNIT -I

Environmental Clearance vide letter F. No. J-11011/374/2016-IA-ll (I) on 16^{th} February, 2018 & No: SEIAA 48 IND 2020, Date: 4^{th} Sept 2020



PROJECT OVERVIEW

Name of the Project:	Hikal Ltd., Unit I
S. No. in the Schedule:	5(f) A category Pharmaceutical
Location:	Plot No:82/A,83-P,83-P1 &72, KIADB Industrial, Jigani Anekal Taluk, Bangalore, Urban District – 560105
Proposed Capacity:	 The number of APIs will be increased from 19 to 45 (i.e. new 26 products + R&D Non-Commercial) Production quantity from 1388 TPA to 4887.8 TPA
New/Expansion/	Expansion
Modernization:	
Total project cost:	Rs. 85 Crores
Cost for EPCM:	Total Rs. 85 Crores & Recurring cost Rs. 80 Crores.
CSR Cost:	Total Rs. 1.8 crores
Type of the project	Manufacturing unit of Pharmaceutical Drugs
Total Site area	17.83 acre or 72,155.5 m ²
Landscape area	24130.92 m ² (34 %)
Number of Employees	Total: 800 Nos.
Total Water requirement	Total: 1162.35 KLD (KIADB)
Power requirement & source (For expansion)	4000 KVA (BESCOM)
Back up power	1500 KVA, 750 KVA, 275 KVA, Cogen Turbine 1750 KVA, 2000 KVA, 2000 KVA (Addition)



PRODUCT DETAILS:-

Sl. No	Name of the product	Existing	Expansion	Total (MTPA)
01	GABAPENTIN	700	1300	2000
02	BURPROPION HCL	50	25	75
03	CINNARIZENE	5	15	20
04	ONDANSETRON HCL	1		1
05	ACEBUTALOL - HCL	15		15
06	P- BENZOXY ANILINE HCL	40		40
07	ONDANSETRON API	1		1
08	OXYPENTIFYLLINE	5	70	75
09	TRIPOLIDINE - HCL	4		4
10	GEMFIBROZIL	300	(- 120)	180
11	DECOQUINATE	75	200	275
12	LEVETIRACETAM	10		10
13	VERAPAMIL	20		20
14	VALPROIC ACID	50		50
15	SODIUM VALPROATE	50		50
16	DI-VALPROEX SODIUM	20		20
17	MAGNESIUM VALPROATE	20		10
18	TOPIRAMATE	20		20
19	T-LUCINE	12		12

Sl. No	Name of the product	Expansion	Total (MTPA)
20	FLUNARAZINE	12	12
21	VENLAFLAXINE HCI	40	40
22	NEOTAME	50	50
23	PIRACETAM	650	650
24	ETIRACETAM FRESH	500	500
25	ETIRACETAM RACEMIC	150	150
26	TPCA.HCL	10	10
27	CMMDT	10	10

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28	TRI-FLUROMETHYL CINNAMIC ACID	10	10
29	MEMANTINE HCI	10	10
30	PIPERAZINENITRO HCI	50	50
31	SEVELAMER CARBONATE	100	100
32	COLESEVALAM HYDROCHLORIDE	100	100
33	PREGABLIN	100	100
34	SITAGLIPTIN	10	10
35	VILDAGLIPTIN	10	10
36	LACOSAMIDE	20	20
37	VALOCYCLOVIR HYDROCHLORIDE	50	50
38	OLMESARTAN	10	10
39	DONEPEZIL HYDROCHLORIDE DIHYDRATE	2	2
40	QUETIAPINE FUMURATE	40	40
41	PRASUGREL (TPPO)	10	10
42	BUTRAPHANOL	0.3	0.3
43	METHIMAZOLE	5	5
44	FAVIPIRAVIR	60.0	60.0
45	APIXABAN	0.5	0.5

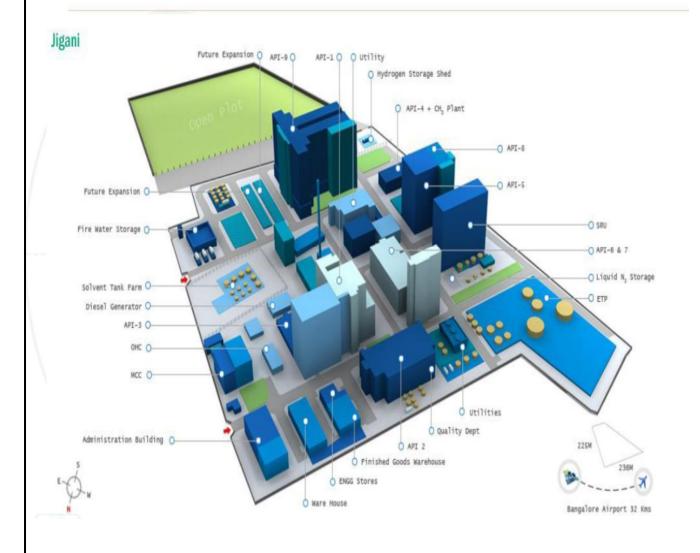
LIST OF BY-PRODUCTS

Sl. No.	Name of the By Product	Quantity per annum (MT)	Disposal
1	Spent Potassium carbonate	54.5	Sale
2	Palladium Carbon catalyst	4.6	Returned to the supplier
3	Raney Nickle Catalyst	28.8	Returned to supplier
4	Aqueous Ammonia	1389.31	Sale
5	Sodium sulphate	8.7	TSDF/ sale
6	Sodium bicarbonate	7.4	TSDF/ sale
7	NaCl Salts from Gabapentine	3572.0	TSDF/ sale

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	8	Gaba lactum	1557.1	Internal consumption
Total	Generatio	on Tons per Annum	6622.4	
	1	Recovered solvents	68406.3	Internal consumption/ Sale
Total	Total Generation Tons per Annum		75028.7	

PLANT LAYOUT:-





ENVIRONEMNT CLEARANCE CONDITION WISE COMPLIACE

No: SEIAA 48 IND 2020 Dated:04/09/2020

Address:

M/s HIKAL LIMITED,

Plot No: 82/A, 83-P, 83-P1 & 72, KIABD Industrial Area, Jigani, Anekal Taluk,

BANGALORE-560 105

Condition No	I. Statutory Compliance	Compliance status
i	The project proponent shall obtain the forest clearance under the provision of Forest (Conservation) Act. 1986, in case of the diversion of the forest land for non-forest purpose involved in the project.	This project is under notified area of KIADB land allotted by Govt of Karnataka.
ii	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.	Noted
iii	The project proponent shall prepare a site-specific conservation plan and wildlife management plan and approved by the Chief Wildlife warden. The recommendations of the approved site-specific plan/wildlife management plan shall be implemented in consultation with the state forest department. The implementation report shall be furnished along with the six-monthly compliance report. (in case the presence of schedule -1 species in the study area)	Noted
iv	The project proponent shall obtain the consent to establish / operate under the provisions of Air (Prevention and Control of pollution) Act, 1981 and the water (Prevention and Control of pollution) Act, 1974 from the concerned State Pollution Control Board/Committee.	We have obtained consent for operation from Karnataka state pollution control Board under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974 vide letter Combined Consent Order No.AW-323332 dated 30/01/2021, and Valid up to:30/06/2026
v	The project proponent shall obtain the authorization under the Hazardous and other waste Management Rules, 2016 as amended from time to time.	We have obtained Hazardous waste Authorization under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016. Authorization No :326027, dated :06/08/2021 Valid up to 30/06/2026
vi	The Company shall comply with the rules and guidelines under Manufacturer, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall as per the Motor Vehicle Act (MVA), 1989.	Noted



Condition	II. Air Quality Monitoring and Preservation	
i	The project proponent shall install 24/7 continuous emission monitoring system at process stacks to monitor the stacks emission with respect to standards prescribed in Environment Rules 1986 and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL	Noted, OCEMS has been installed at Cogen boiler stack for monitoring of SPM parameter.
ii	Accredited Laboratory. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognized under Environment Protection Act, 1986.	Noted, Process stacks out let Fugitive emissions monitored once in every quarter and Ambient fugitive emission monitored once in a year. Monitoring reports being submitted to SPCB. AAQM data Attached as annexure:III
iii	The project Proponent shall install system to carry out Ambient Air Quality Monitoring for common/criterion parameters relevant to the main pollutants released (e. g. PM10 and PM2.5 in reference to PM emission and SO2 and NOX in reference to SO2 and NOX emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120 each), covering upwind and downwind directions	As per guidance from KSPCB/CPCB, as well ministry MoEF & CC suggestion we have fixed the ambient air quality monitoring stations, Main Gate, Process plant area and ETP plant. We have installed one Continuous Online ambient air quality station to monitor PM10. PM2.5, SO2, NO2, O3 and NH3 parameters.
iv	To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. Sulphur contents should not be exceed 0.5% in the coal fired boilers to control particulate emissions shall be dispersed through the stack of adequate height as per the CPCB/SPCB Norms.	The major source of emission is from Boiler, reactor stacks & DG stack. The details of proposed source of air pollution & corresponding Air Pollution control equipment in Annexure-I APC measures are adequate stack height to disperse the pollutants. Adequate green belt has been developed to mitigate the pollution arising due to movement of vehicles. Regular Monitoring of DG-Stack and Ambient air quality will be carried out. We are adopting continuous online (24x7) monitoring system installed for Cogen Boiler stack emissions for measurement of flue gas discharge and the pollutants concentration.
v	Storage of Raw materials, coal etc. shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.	Noted Noted



vi	National Emissions Standards for organic Chemicals Manufacturing Industry issued by the ministry vide G.S.R. 608(E) dated 21 st July, 2010 and amended from time to time shall be followed.	Noted
vii	National Ambient Air quality Emission Standards issued by the Ministry vide G.S.R No. 826 (E) dated 16 th November, 2009 Shall be compiled with.	We are following National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 161h November, 2009 for monitoring the Ambient air quality in the plant.

Condition No	III. Water Quality Monitoring an Preservation	
i	The project proponent shall provide online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying the effluent within the premises (applicable in case of the projects achieving the ZLD).	Noted and provided
ii	As already committed by the project proponent, Zero Liquid Discharge shall be ensured, and no waste/treated water shall be discharged outside the premises (applicable in case of the projects achieving the ZLD).	We will not allow any kind of Process effluent/any wastewater to mix with storm water. Also we have made provision for Storm water drain passed through collection tank.
iii	The effluent discharge shall confirm to the standards prescribed under the Environment (Prevention) Act, 1986, or as specified by the State Pollution Control Board while granting Consent Under the Air/Water Act, whichever is more stringent.	Noted, Treated water quality monitoring data attached as Annexure : V
iv	Total freshwater requirement shall not exceed the proposed quantity or as specified by the committee. Prior permission shall be obtained from the concerned regulatory authority/CGWA in this regard.	Total water requirement is 1162.35 KLD; Source of water from tanker.
V	Process effluent/any wastewater shall not be allowed to mix with storm water. The storm water from the premises shall collected and discharged through separate conveyance system.	Noted
vi	The company shall harvest rainwater from the roof tops of the buildings and storm water drains to discharge the ground water and utilize the same for different industrial operations within the plant.	Noted
vii	The DG sets shall be equipped with suitable pollution control devices and the adequate stack height so that the emissions are in conformity with the extant regulations and guidelines in this regard.	As per KSPCB/CPCB Guidelines we have provided acoustic enclosure for the DG sets along with the adequate stack height. Also we are carrying out periodically monitoring/ services of Motors, Boilers etc., to ensure smooth operation
Condition No	IV. Noise Monitoring and Prevention	

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i	Acoustic enclosure shall be provided to DG set for controlling the noise pollution.	As per KSPCB/CPCB Guidelines we have provided acoustic enclosure for the DG sets along with the adequate stack height. Also we are carrying out periodically monitoring/ services of Motors, Boilers etc., to ensure smooth operation
ii	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation.	Noted, Noise monitoring report attached as Annexure-IV
iii	The Ambient Noise Levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75dB(A) during day time and 70dB(A) during night time.	Noted. Ambient noise level being monitored once in a month and reports submitted.
Condition No	V. Energy Conservation Measures	
i	The energy sources for lighting purposes shall preferably by LED based.	Noted. 90% LED bulbs are installed instead of CFL and tube lights and remaining replacement is under progress.

Condition No	VI. Waste Management	
i	Hazardous Chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm and solvent transfer through pumps.	Noted. Flame arrester/detector in solvent storage area, as well hazardous chemical stored in tank farms, drums ensuring no fire hazards occur.
ii	Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic and evaporation salt shall be disposed-off to the TSDF.	Agreed. We will disposing the hazardous waste As per Hazardous waste Authorization issued by the KSPCB under the hazardous and other waste (Management and Trans boundary)Rules, 2016
iii	The company shall undertake waste minimization measures as below: a. Metering and control of quantities of active ingredients to minimize waste. b. Reuse of by-products from the process as raw materials or as raw materials substitutes in other processes. c. Use of automated filling to minimize spillages d. Use of Close Feed System into batch reactors e. Venting equipment through vapour recovery system. f. Use of high pressure hoses for equipment clearing to reduce wastewater generation.	Noted. We have provided flow meter for control of quantities of waste water to minimize. We have adopted 3 R (Recycle, Reduce, and Reuse) policy in the operation to ensure minimum waste and reuse as byproducts (Raw material, Products). We have adopted Closed handling system for handling of chemicals and solvents with auto control systems like – flow meters, level transmitters and load cells. Acid is transporting through closed

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		pipeline so that fugitive emission shall be avoided.
		Storage tanks shall be provided with BPRV to avoid emissions. Nitrogen blanketing in place for all tanks.
		We have provided high pressure hoses for equipment clearing to reduce wastewater generation.
Condition No	VII. Green Belt	
i	The green of 5-10 m width shall be developed in more than 33% of the total project area, mainly total project area, mainly along the plant periphery, in downward wind direction, and along roadsides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with State Forest Department.	We have developed 24130.92 Sq. mtr (34 %) developed for Green Belt area. We have planted the species along with consultation of KSPCB. We have planted around 400 saplings this year in the Lake periphery and other areas of our plant/neighboring areas in addition to exiting green belt maintained in our premises.
Condition	VIII. Safety, Public Hearing and Human	
No	Health Issues	
i	Emergency Preparedness Plan based on the Hazard Identification and Risk Assessment (HIRA) and disaster management Plan shall be implemented	Noted and Approved Onsite Emergency Preparedness Plan is available, we will review once based on HIRA.
ii	The unit shall make the arrangement for the protection of possible fire hazards during the manufacturing process in material handling. Fire Fighting System shall be as per the norms.	Noted, Site is having networked firefighting system with all accessories and portable fire extinguishers.
iii	The PP shall provide Personal Protection Equipment (PPE) as per the norms of Factory Act.	Noted and being followed.
iv	Training shall be imparted to all employees on safety and health aspects of Chemical handling. Preemployment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.	Noted and We have trained all employees on safety and health aspects of chemicals handling. Also Preemployment and routine periodical medical examinations for all employees undertaken on regular basis.
v	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure facilities such as fuel for cooking, mobile toilets, Mobile STP, Safe drinking water, Medical health care, Creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Noted
vi	Occupational health surveillance of the workers shall be done on regular basis and records maintained as per the	Noted

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	Factories Act.	
vii	There shall be adequate space inside the premises earmarked for parking of vehicles for raw materials and finished products, and no parking to be allowed outside on public places.	Noted
Condition	IX. Corporate Environment Responsibilities	
No	1	
i	The project authorities shall undertake activities under corporate environment responsibilities (CER) with a total cost of not less than Rs. 25 lakhs towards CM Care Fund, in accordance with the O.M.F.No.22-65/2017-IA,III dated 01st May 2018 and report be submitted to the authority.	Under CER Rs. 25 Lakh to Karnataka Chief Minister's Relief Fund is donated.
ii	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental Policy should prescribe for standard operating procedures to have a proper checks and balances and to bring into focus any infringements /deviation /violation of the environmental/forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/ deviation/violation of the environmental/forest/wildlife norms/ conditions and / or shareholders/stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF and CC as a part of Six-monthly report.	Noted
iii	A separate environmental cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior executive, who will directly to the head of organization.	Noted
iv	Action plan for implementing EMP and environmental conditions along with responsibilities matric of the company shall be prepared and shall be duly approved by competent authority. The years wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purposes. Year wise progress of implementation of the action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report	Noted
V	Self-Environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.	Noted
Condition No	X. Miscellaneous	
i	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the district or state, of which one shall be in the vernacular language within seven days	Noted, Published in two newspapers – The New Indian Express on 21.11.2020 and Vishwavani on 21.11.2020, Attached copy as Annexure:VII

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	and in addition this shall also be displayed in the project	
	proponents' website permanently.	
	The copies of the environmental clearance shall be	
	submitted by the project proponents to the Heads of the	
ii	Local Bodied, Panchayats and Municipal Bodies on	Noted
	addition to the relevant offices of the Government who	
	in turn has to display the same for 30 days from the date	
	of receipt.	
	The project proponent shall upload the status of the	
iii	Compliance of the stipulated environment clearance	Noted
	conditions, including results of monitored data on their	
	website and update the same on half yearly basis.	
	The project Proponent shall monitor the criteria	
	pollutants namely: PM10, SO2, NOx (Ambient levels as	
iv	well as stack emissions) or critical sectorial parameters,	Display board is provided at main gate.
1,	indicated for the projects and display the same at a	Bisplay board is provided at main gate.
	convenient location for disclosure to the public and put	
	on the website of the company.	
	The project Proponent shall submit the Six-monthly	
	reports on the status of the compliance of the stipulated	
V	environmental conditions on the website of the ministry	Noted
	of environment, Forest and Climate change at	
	environmental Clarence Portal.	
	"The HYCRs with its contents of a covering letter,	
	compliance reports and environmental monitoring data	
	has to be in PDF format merged into a single document.	
vi	The email should clearly mention the name of the	Noted
VI	project, EC No and date, period of submission and to be	Noted
	sent to the Regional Office of MoEF & CC by email	
	only at email ID: rosz.bng-mefcc@gov.in. Hard copy of	
	HYCRs shall not be acceptable,	
	The project proponent shall submit the environmental	
	statement for each financial year in Form – V to the	
::	concerned State Pollution Control Board as prescribed	Form-V for FY 2020-2021 is submitted
vii	under Environment (protection) Rules, 1986, as	RO-KSPCB
	amended subsequently and put on the website of the	
	company.	
	The project proponent shall inform the regional office as	
	well as the Ministry, the date of financial closure and	
viii	final approval of the project by the concerned	Noted,
	authorities, commencing the land development work	
	and start of production operation by the project.	
	The project authorities must strictly adhere to the	
ix	stipulations made by the State Pollution Control Board	Noted
	and the State Government.	
	The project proponent shall abide by all the	
	commitments and recommendations made in the	
X	EIS/EMP Report, Commitment made during Public	Noted
· -	Hearing and also that during their presentation to the	
	Expert Appraisal Committee.	
Xi	No further expansion or modifications in the plant shall	Noted
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	be carried out without prior approval of this Authority of the Ministry of Environment, Forests and Climate Change (MoEF & CC).	
xii	Concealing factual data or submission of False/Fabricated data may result in revocation of this Environmental Clearance and attracts action under the provisions of Environment (protection) Act, 1986.	Noted
xiii	The SEIAA may revoke or suspend the clearance, if implementations of any of the above conditions is not satisfactory.	Noted
xiv	The SEIAA reserves the right to stipulate additional conditions if found necessary. The company in a time bound manner shall implement these conditions.	Noted
XV	The regional office of the MoEF & CC shall monitor compliance of the stipulated conditions. The project Authorities should extend full cooperation to the officer (S) of the regional Office by furnishing the requisite data/information/monitoring reports.	Noted
xvi	The above conditions shall be enforced, inter-alia under the provisions of the water (Prevention and Control of Pollution) Act, 1974, the air (Prevention and Control of Pollution) act, 1986, Hazardous Waste and Other Waste (Management and Trans boundary Movement) Rules, 2016 and the public Liability Insurance Act, 1991 along with their amendments and rules and any others passed by the Hon'ble Supreme Court of India/ High Courts and any other courts of law relating to the subject matter.	Noted
xvii	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.	Noted
xviii	The project proponent shall adopt and comply all the mechanism included by the MoEF & CC which is given in the Annexure – II and shall abide by the conditions there on. The project Proponent shall undertake all necessary steps to bring down the CEPI score of the industrial area and the improve the environment condition in accordance with the mechanism evolved by MoEF & CC.	Noted
xix	The project proponent shall submit the map duly authenticated by chief wildlife warden showing the boundary of Bannerughatta National Park vis-s-cis the project location before undertaking construction activity and shall be adhered to the recommendations or comments of the chief wildlife warden thereon as committed.	Noted and under progress.



Annexure -II Additional conditions Additional conditions as per the Mechanism evolved by MOEF&CC as compliance to the orders of Hon'ble NGT dated19/08/2019 in O.A. No.1038 of 2018 **Environ Mitigation Measure** Compliance ment Air Stipulation of conditions such as: Stack emission levels should be stringent than the existing Being followed standards in terms of the identified critical mentioned in CFO CEMS may be installed in large/medium red category Installed to Cogen boiler ii. industries(Air polluting) and connected to SPCB and CPCB server iii. Effective fugitive emission control measures should be imposed in Being followed the process. transportation, packing etc. Transportations of materials by rail/conveyer belt wherever iv. Noted Encourage use of cleaner fuels(pet coke/ furnace oil/I.SHS may be PNG to be used in place v. avoided) Best available technology may be used. for example: usage of ESP installed for Cogen vi. EAF/SAF/RF in place of Cupola furnace. usage if supercritical boiler to avoid SPM technology in place sub critical technology. emission. Increase in green belt cover by 40% of the total land area beyond the We have developed vii. permissible requirement of 33% wherever feasible. 24130.92 Sq. mtr (34 %) developed for Green Belt area viii. 1000 saplings Planted at Stipulation of greenbelt outside the project premises such as avenue plantation. plantation in vacant areas, social forestry, etc. Konsandra lake bund area Assessment of carrying capacity of transportations load on roads Noted ix. inside the industrial premises. if the roads required to be widened shall be prescribed as conditions Water **Stipulation of conditions such as:** Reuse/recycle of treated wastewater, wherever feasible i. Being practiced Continuous Monitoring of effluent quality/quantity in large/medium Provided for STP and ii. red category industries(Water polluting) ETP ZLD A detailed water harvesting plan may be submitted by the project Noted iii. proponent ZLD- wherever techno economically feasible ZLD is adopted iv.

In case, domestic wastewater generation is more than 10 KLD, the

Increase of green belt cover by 40% of the total land area beyond

Stipulation of greenbelt outside the project premises such as avenue

Dumping of waste (fly ash, slag, red mud, etc.) may be permitted

More stringent norms for management of hazardous waste. The

waste generated should be preferably utilized in co-processing

the permissible requirement of 33%, wherever, feasible for new

plantation, plantation in vacant areas, social forestry, etc.

only at designated locations approved by SPCBs/ PCCs.

v.

ii.

iii.

iv.

Land

industry may install STP.

Stipulation of conditions such as:

STP is provided and

operational

Noted

1000 saplings Planted at

Konsandra lake bund

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Other	i.	Monitoring of compliance of EC conditions may be Conditions may	Noted
Condition		be submitted with third party audit every year.	
(Addition	ii.	The % of the CER may be at least 1.5 times the slabs given in the	Noted
al)		OM dated 01.05.2018 for SPA and 2 times for CPA in case of	

Environmental Clearance.

COMPLIANCE STATUS FOR ENVIRONMENTAL CLEARANCE OF M/S HIKAL LIMITED, Plot No. 82/A, 83-P, 83-P1 & 72, KIADB Industrial Area, Jigani, Anekal Taluk, Bangalore Urban (Karnataka)

Environmental Clearance issued by Ministry of Environment, Forest and Climate Change (IA- II Section) vide letter F. No. J-11011/374/2016-IA-ll(I) on 16^{th} February 2018

Specific Conditions

S. No	Condition	Compliance Status				
1.	The environmental clearance is subject to obtaining prior clearance from the wildlife angle including clearance from the Standing Committee of the National Board for Wildlife as applicable. Grant of environmental clearance does not necessarily implies that Wildlife Clearance shall be granted to the project and that their proposals for Wildlife Clearance will be considered by the respective authorities on their merits and decision taken.	We have applied for wild life clearance through Ministry of Environment, Forest and climate change online portal vide Proposal No.: FP/KA/IND/1876/2017. It is under the consideration of wildlife warden. Once get the clearance same will be furnished to kind your office.				
2.	Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.	We have obtained consent for operation from Karnataka state pollution control Board under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974 vide letter Combined Consent Order No.AW-323332 dated 30/01/2021, and Valid up to:30/06/2026				
3.	As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.	Shall Oblique				

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4.	Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.	We have obtained Hazardous waste Authorization under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016. Authorization No :316325, Valid up to 30/06/2021
5.	To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.	The major source of emission is from Boiler, reactor stacks & DG stack. The details of proposed source of air pollution & corresponding Air Pollution control equipment in Annexure-I APC measures are adequate stack height to disperse the pollutants. Adequate green belt has been developed to mitigate the pollution arising due to movement of vehicles. Regular Monitoring of DG-Stack and Ambient air quality will be carried out. Stacks emission monitoring data attached in Annexure-II
6.	Total fresh water requirement shall not exceed 1158 cum/day, to be met from KIADB water supply. Prior permission in this regard shall be obtained from the concerned regulatory authority.	Total water requirement is 1158 KLD; Source of water from tanker.
	Industrial/trade effluent shall be segregated into High COD/TDS and Low COD/TDS effluent streams, as applicable. High TDS/COD shall be passed through stripper followed by MEE and ATFD (agitated thin film drier). Low TDS effluent stream shall be treated in ETP and then passed through RO system.	 The domestic water consumption is 45 KLD and wastew at er generation is 40 KLD and is dispose to garden after sewage treatment. Existing STP plant capacity of 50 KLD. Amount of water required for process: 175 KLD
7.		 Total industrial effluent generation is 224 KLD. Effluent shall be treated in ETP followed by MEE and ATFD. The Distillate along with RO permeate given to utility Boiler feed makeup water is 320 KLD, effluent generation is 138 KLD including blow down and single utility steam condensate. Same shall be treated in DM plant and reused for Boiler feed. Fresh RO Reject water is 106KL, TDS is <1500 ppm, Same water Used for

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		gardening, road cleaning, floor washings, fire hydrant make up and toilet flushing. O STP treated & RO permeate water quality monitoring data attached as a Aneexure-V
8.	Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.	We will not allow any kind of Process effluent/any wastewater to mix with storm water. Also we have made provision for Storm water drain passed through collection (guard) pond.
9.	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm and the solvent transfer through pumps.	Flame arrester/detector in solvent storage area, as well hazardous chemical stored in tank farms, drums ensuring no fire hazards occur.
10	Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.	Agreed. We will disposing the hazardous waste As per Hazardous waste Authorization issued by the KSPCB under the hazardous and other waste (Management and Transboundary)Rules, 2016
11	The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.	We are complying manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals as per the Motor Vehicle Act (MVA), 1989.
12	The company shall undertake waste minimization measures as below: (a) Metering and control of quantities of active ingredients to minimize waste. (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapour recovery system. (f) Use of high pressure hoses for equipment clearing to reduce wastewater generation.	We have provided flow meter for control of quantities of waste water to minimize We have adopted 3 R (Recycle, Reduce, Reuse) policy in the operation to ensure minimum waste and reuse as by-products (Raw material, Products) We have adopted Closed handling system for handling of chemicals and solvents, Acid is transporting through closed pipeline so that fugitive emission shall be avoided. Storage tanks shall be provided with BPRV to
		Storage tanks shall be provided with BPRV to avoid emissions. Nitrogen blanketing in place

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		for all tanks.		
		We have provided high pressure hoses for equipment clearing to reduce wastewater generation.		
13	The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.	We have developed 24130.92 Sq. mtr (34 %) developed for Green Belt area. We have planted the species along with consultation of KSPCB. We have planted around 400 saplings this year in the Lake periphery and other areas of our plant/neighboring areas in addition to exiting green belt maintained in our premises.		
14	At least 2.5% of the total project cost shall be allocated for Enterprise Social Commitment. Itemwise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.	Shall Oblique		
15	The company shall make all arrangements for control of noise from the drilling activity. Acoustic enclosure shall be provided for the DG sets along with the adequate stack height as per CPCB guidelines.	As per KSPCB/CPCB Guidelines we have provided acoustic enclosure for the DG sets along with the adequate stack height. Also we are carrying out periodically monitoring/ services of Motors, Boilers etc., to ensure smooth operation.		
16	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.	We have made following below arrangements for protection against fire hazard also we have implemented Emergency Response Plan. 1. Fire Hydrant System, Deluge valve and raiser in place. 2. 2.Use CO2 type or DCP type or dry 3. sand to extinguishing the Fire Extinguisher 4. Emergency Equipment's and PPEs 5. Eye Wash Fountain and Safety Shower		
17	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	We are periodically carrying occupational health surveillance of the workers and maintained a records as per the Factories Act.		

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18	Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.	We are adopting continuous online (24x7) monitoring system installed for stack emissions for measurement of flue gas discharge and the pollutants concentration. Also installed flow meters in the channel carrying effluent within the premises
19	The energy sources for lighting purposes shall preferably be LED based. A minimum of 10-20% of the total power requirement for the industrial operations shall be met from non-conventional energy resources/solar supply.	We have already implemented lighting based on LED around office, store, common utility area such as Dinning, restroom, conference hall. Also we are planning to adopt solar energy based power for plant operation by 2020 so that we will utilize minimum of 10-20% of the total power for the industrial operations.
The	grant of environmental clearance is subject to comp	bliance of other general conditions, as under:-
1	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board, Central Pollution Control Board, State Government and any other statutory authority.	Agreed, we will adhere to the stipulations made by the Karnataka State Pollution Control Board, Central Pollution Control Board, State Government and any other statutory authority.
2	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Without prior approval from Ministry of Environment, Forest and Climate Change, we will not carryout any expansion or modifications in the plant
3	The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured that at least one station each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	As per guidance from KSPCB/ CPCB, as well ministry MoEF & CC suggestion we have fixed the ambient air quality monitoring stations, Main Gate, Process plant area and ETP plant.
4	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed.	We are following National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 161h November, 2009 for monitoring the Ambient air quality in the plant attached as Annexure-III

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5	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Noise level within the limit a prescribed under Environment (Protection) Act, 1986 Rules, 1989. Attached as Annexure-IV .
6	The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.	We have already implemented rain water harvesting system in the premises so that recharge the ground water and use the same water for the process activities of the project to conserve fresh water.
7	Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.	We have trained all employees on safety and health aspects of chemicals handling. Also Pre-employment and routine periodical medical examinations for all employees undertaken on regular basis.
8	The company shall also comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.	We have complied the all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. As per recommendation made in the EIA report in respect of environmental management, and risk mitigation measures relating to the project being implemented.
9	The company shall undertake all relevant measures for improving the socio- economic conditions of the surrounding area. ESC activities shall be undertaken by involving local villages and administration.	We have provided jobs to locals as well we have undertaken community welfare around our project area as part of CSR programme. CSR details attached as Annexure-VI
10	The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	We have undertaken eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
11	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so	As per EIA Report, we have earmarking funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change. Also, ensuring that, we will not divert the funds so earmarked for environment management/

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	earmarked for environment management/pollution control measures shall not be diverted for any other purpose.	pollution control measures Purpose.			
12	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.	Point Noted			
13	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.	As per EC Condition, we will submit the half yearly compliance report stipulated Environmental Clearance conditions including results of monitored data to Regional office south zone, MoEF CC-Bangalore. Also we will submit the compliance report to KSPCB.			
14	The environmental statement for each financial year ending 31 st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.	We had submitted the Environmental Audit statement (Form V) for the year 2019-20 to Karnataka State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986. Further, as per EC Condition, we will submit the compliance report to Regional office south zone, MoEF& CC-Bangalore			
15	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at http://moef.nic.in. This shall be advertised within seven days from the	Published in two newspapers - Deccan Chronicle 21.12.2018 and Kannada Prabha on			

20.12.2018

date of issue of the clearance letter, at least in two

local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned

Regional Office of the Ministry.

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16	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Point Noted
17	The Ministry may revoke or suspend the clearance, at subsequent stages, if implementation of any of the above conditions is not satisfactory.	Point Noted
18	The Ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions.	Point Noted
19	The above conditions will be enforced, inter alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Water Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	Agreed



<u>Annexure -I</u> Air Pollution Control Measures

Sl.No	Chimney	Constituents	Tolerance	Air pollution
	attached to	to be	limits	Control equipment
		controlled	mg/Nms as	to be installed, in
		in the	per CFO	addition to
		emission		chimney height
	Existing Air pollution Sources a			
01	2.8 TPH Boiler	SO2 & NO2	600 & 300	30.5 m AGL
02	6.3 TPH Boiler	SO2 & NO2	600 & 300	38 m AGL
03	6.3 TPH Boiler & 2 Lakh K. Cal Thermic Fluid Heater	SO2 & NO2	600 & 300	Common chimney of 38 m AGL
04	Process emissions from all the reactors- 7 Nos.	Acid Mist	35	Individual chimneys of 38 m AGL
05	DG Set — 750 KVA.	PM CO NO2 NMHC	75 150 710 100	C16 m AC with Acoustic Enclosures
06	DG Set — 1500KVA.	PM CO NO2 NMHC	75 150 710 100	30 m AGL with Acoustic Enclosures
07	DG Set-275 KVA.	PM CO NO2 NMHC	75 150 710 100	6 m ARL with Acoustic Enclosures
08	Boiler-14 MT/Hr (Briquette fired)	PM	100	35 in AGL with ESP
09	DG Set — 2000KVA	PM CO NO2 NMHC	75 150 710 100	30 m AGL with Acoustic Enclosures
10	Process emissions from all the reactors- 8 Nos.	Acid Mist , SO2	35	Individual chimneys of 5 m ARL connected with Scrubbers
11	2 Lakh K. Cal Thermic Fluid Heater	SO2 & NO2	600 & 300	Common chimney of 30.5 m AGL (with 2.8 2.8 TPH Boiler)
	Proposed Air pollution Sources	and control equ	nipment's	
12	DG Set —	PM	75	30 m AGL with Acoustic
	2500 KVA	CO NO2 NMHC	150 710	Enclosures
13	Boiler-25 MT/Hr (Briquette fired)	PM	100	35 in AGL with ESP



Annexure -II: Boiler & DG stacks emissions monitoring data

Month	Parameters (mg/Nm3)	DG 275 KVA	DG 750 KVA	DG 1500 KVA	DG 2000 KVA
					1
	SOx	17.28	17.93	16.97	21.74
	NOx	22.8	23.7	26.4	28.7
Oct-21	PM	34.62	38.89	42.15	44.13
	CO	14.6	15.9	20.1	20.6
	NMHC	15.2	15.4	16	16.4
	THC	23	24	25	26
	SOx	16.11	17.22	17.93	22.63
	NOx	23.1	24.1	26.8	27.6
Nov-21	PM	33.85	37.98	41.74	43.37
1107-21	CO	14.4	15.3	18.5	19.8
	NMHC	14.9	15.5	14.7	15.9
	THC	21	23.2	24.7	25.4
	SOx	13.66	14.67	-	21.74
	NOx	23.8	24.4	-	26.9
Dec-21	PM	34.09	37.24	-	42.82
Dec-21	CO	14.7	15.4	-	18.7
	NMHC	14.5	14.8	-	15.4
	THC	21.8	22.9	-	25.7
	SOx	14	14.25	17.42	21.52
	NOx	23.2	24.2	25.1	25.7
Jan-22	PM	34.6	38.05	41.95	42.76
Jan-22	CO	14.5	15.9	16.4	17.9
	NMHC	13.9	15.1	15.2	15.2
	THC	21.5	23.2	23.5	24.8
	SOx	14.94	15.23	19.01	23.47
Esh 22	NOx	24.5	25.1	25.6	27.3
Feb-22	PM	33.89	39.17	43.37	46.12
	СО	15.2	16.2	16.8	18.2
	NMHC	14.3	15.8	15.7	16.4
	THC	22.6	23.8	23.9	25.2



	SOx	14.4	14.4	17.6	23.91
	NOx	25.8	26.1	27.9	32.7
Mar-22	PM	34.3	38.66	42.76	45.41
Mar-22	CO	16.1	16.8	17.7	24.8
	NMHC	15.4	16.2	16.4	18.7
	THC	23.4	24.8	24.8	26.9



Month	Parameters (mg/Nm3)	14 Ton Kg/hr Cogen boiler	2800 Kg/hr Boiler(SB-302) & Hot oil 501	6300 Kg/hr Boiler SB-303	6300 Kg/hr Boiler & Hot oil 301
	SOx	69.3	-	57.29	52.8
	NOx	80.12	-	43.7	45.9
0-4-21	PM	74.2	-	60.17	58.33
Oct-21	CO	0.62	-	0.02	0.19
	CO2 (%)	7.4	-	7.5	7.3
	O2 (%)	10.9	-	9.1	8.9
	SOx	67.4	-	53.92	49.69
	NOx	79.21	-	42.5	44.5
Nov-21	PM	75.34	-	61.19	57.93
1107-21	CO	0.73	-	0.024	0.018
	CO2 (%)	7.8	-	7.8	7.4
	O2 (%)	10.5	-	9.4	8.6
	SOx	68.4	-	57.02	52.8
	NOx	75.5	-	44.9	45.7
Dec-21	PM	75.95	-	60.88	58.24
Dec-21	CO	0.87	-	0.03	0.02
	CO2 (%)	8.1	-	8.1	7.9
	O2 (%)	10.7	-	9.8	8.9
	SOx	62.72	-	55.34	53.31
	NOx	73.58	-	43.8	44.8
T 00	PM	74.83	-	61.19	58.54
Jan-22	CO	0.91	-	0.04	0.024
	CO2 (%)	8.6	-	8.3	8.1
	O2 (%)	10.4	-	9.9	8.8
	SOx	19.2	-	67.4	62.7
Eat 22	NOx	76.29	-	52.6	51.9
Feb-22	PM	77.38	-	64.85	60.17
	CO	0.98	-	0.06	0.03
	CO2 (%)	9.4	-	8.8	9.2
	O2 (%)	10.6	-	10.2	9.8

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Month	Parameters (mg/Nm3)	14 Ton Kg/hr Cogen boiler	2800 Kg/hr Boiler(SB-302) & Hot oil 501	6300 Kg/hr Boiler SB-303	6300 Kg/hr Boiler & Hot oil 301
	SOx 57.6		213.23	310.71	242.26
	NOx	84.27	159	188	174.8
Mar-22	PM	89.19	63.43	69.43	65.77
Mar-22	CO	2.4	1.1	1.4	1.4
	CO2 (%)	9.8	8.8	9.2	9.4
	O2 (%)	11.4	9.3	10.2	10

	Stack emissions from process(SO ₂) Month wise analysis report										
			Location of the stacks								
Month	Unit	Limit	API-1 Stack 1	API-1 Stack 2	API-1 Stack 3	API-2 Stack 4	API-3 Stack 5	API-4 Stack 6			
Oct-21	mg/M ³	NA	3.17	2.93	2.53	2.73	2.93	3.05			
Nov-21	mg/M ³	NA	2.53	3.52	3.17	3.39	3.52	3.66			
Dec-21	mg/M ³	NA	2.35	3.66	2.93	3.52	3.28	3.39			
Jan-22	mg/M ³	NA	2.32	3.62	3.02	3.48	3.62	3.48			
Feb-22	mg/M ³	NA	2.93	3.66	3.3	3.66	3.96	3.8			
Mar-22	mg/M ³	NA	4.11	4.69	5.28	4.11	4.62	5.28			

	Stack emissions from process(SO2) Month wise analysis report											
	Unit	Limit		Location of the stacks								
Month			API-5 Stack 7	API-6 Stack 8	API-7 Stack 9	API-8 Stack 10	SRU Stack 11	MPSRU Stack 12				
Oct-21	mg/M ³	NA	2.83	2.93	0.049	2.73	2.18	2.83				
Nov-21	mg/M ³	NA	3.28	2.93	2.93	3.28	2.83	3.52				
Dec-21	mg/M ³	NA	3.82	3.52	4.11	3.39	2.73	3.39				
Jan-22	mg/M ³	NA	4.22	3.48	4.07	3.48	2.9	3.62				
Feb-22	mg/M ³	NA	4.44	3.66	3.8	4.44	3.05	3.52				
Mar-22	mg/M ³	NA	5.07	5.28	4.44	5.07	4.26	4.87				



	Stack emissions from process(Acid Mist) Month wise analysis report											
					Location o	f the stacks						
Month	Unit	Limit	API-1 Stack 1	API-1 Stack 2	API-1 Stack 3	API-2 Stack 4	API-3 Stack 5	API-4 Stack 6				
Oct-21	mg/NM ³	35	2.3	2.1	2.5	2.4	2.3	2.5				
Nov-21	mg/NM ³	35	2.5	2.7	2.4	2.7	2.5	2.6				
Dec-21	mg/NM ³	35	2.2	2.4	2.6	2.6	2.3	2.8				
Jan-22	mg/NM ³	35	2.4	2.3	2.2	2.5	2.6	2.4				
Feb-22	mg/NM ³	35	2.6	2.5	2.6	2.3	2.4	2.6				
Mar-22	mg/NM ³	35	3.1	3.4	3.6	3.2	3.5	3.3				

	Stack emissions from process(Acid Mist) Month wise analysis report												
			Location of the stacks										
Month	Unit	Limit	API-5 Stack 7	API-6 Stack 8	API-7 Stack 9	API-8 Stack 10	SRU Stack 11	MPSRU Stack 12					
Oct-21	mg/NM ³	35	2.7	2.6	2.4	2.7	2.5	2.6					
Nov-21	mg/NM ³	35	2.8	2.5	2.7	2.9	2.6	2.8					
Dec-21	mg/NM ³	35	2.5	2.7	2.9	2.8	2.9	2.9					
Jan-22	mg/NM ³	35	2.4	2.2	2.7	2.7	2.6	2.4					
Feb-22	mg/NM ³	35	2.5	2.4	2.7	2.5	2.3	2.6					
Mar-22	mg/NM ³	35	3.4	3.6	3.4	3.4	3.6	3.3					

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	Scrı	ıbber VOC	Quarterly	analysis re	eport (Dec-21)			
		Location of the stacks							
Parameter	Unit	API-1	API-1	API-1	API-2	API-3	API-4		
		Stack 1	Stack 2	Stack 3	Stack 4	Stack 5	Stack 6		
Benzene	PPM	0.01	0.012	0.014	0.012	BDL	0.01		
CCI4	PPM	BDL	BDL	BDL	BDL	BDL	BDL		
Methanol	PPM	BDL	0.15	BDL	BDL	BDL	BDL		
Toluene	PPM	0.32	0.41	0.36	0.4	0.41	0.38		
CH3CI	PPM	BDL	BDL	BDL	BDL	BDL	BDL		
Acetone	PPM	0.41	0.38	0.46	0.5	0.44	0.48		
Mercaptan	PPM	ND	ND	ND	BDL	BDL	BDL		
H2S	PPM	ND	ND	ND	BDL	BDL	BDL		

	Scrubber VOC Quarterly analysis report (Dec-21)											
		Location of the stacks										
Parameter	Unit	API-5	API-6	API-7	API-8	SRU	MPSRU	API-9				
		Stack 7	Stack 8	Stack 9	Stack 10	Stack 11	Stack 12	Stack 13				
Benzene	PPM	0.011	0.01	0.11	0.01	BDL	0.011	BDL				
CCI4	PPM	BDL	BDL	BDL	BDL	BDL	BDL	BDL				
Methanol	PPM	BDL	BDL	BDL	BDL	0.21	BDL	0.14				
Toluene	PPM	0.28	0.33	0.4	0.39	0.37	0.41	0.19				
CH3CI	PPM	BDL	BDL	BDL	BDL	BDL	BDL	BDL				
Acetone	PPM	0.44	0.4	0.38	0.4	0.42	0.5	0.34				
Mercaptan	PPM	BDL	BDL	BDL	BDL	BDL	BDL	BDL				
H2S	PPM	BDL	BDL	BDL	BDL	BDL	BDL	BDL				



	Scrubber VOC Quarterly analysis report (Mar-21)											
		Location of the stacks										
Parameter	Unit	API-1	API-1	API-1	API-2	API-3	API-4					
		Stack 1	Stack 2	Stack 3	Stack 4	Stack 5	Stack 6					
Benzene	PPM	0.012	0.014	0.013	0.016	BDL	0.015					
CCI4	PPM	BDL	BDL	BDL	BDL	BDL	BDL					
Methanol	PPM	BDL	0.16	BDL	BDL	BDL	BDL					
Toluene	PPM	0.36	0.45	0.38	0.44	0.46	0.42					
CH3CI	PPM	BDL	BDL	BDL	BDL	BDL	BDL					
Acetone	PPM	0.46	0.422	0.43	0.57	0.49	0.47					
Mercaptan	PPM	ND	ND	ND	BDL	BDL	BDL					
H2S	PPM	ND	ND	ND	BDL	BDL	BDL					

	Scrubber VOC Quarterly analysis report (Mar-21)											
		Location of the stacks										
 Parameter	Unit	API-5	API-6	API-7	API-8	SRU	MPSRU	API-9				
Tarameur	0.1110	Stack 7	Stack 8	Stack 9	Stack 10	Stack 11	Stack 12	Stack 13				
Benzene	PPM	0.013	0.014	0.015	0.011	BDL	0.013	BDL				
CCI4	PPM	BDL	BDL	BDL	BDL	BDL	BDL	BDL				
Methanol	PPM	BDL	0.15	BDL	BDL	0.21	BDL	0.16				
Toluene	PPM	0.31	0.38	0.45	0.48	0.46	0.47	0.24				
CH3CI	PPM	BDL	BDL	BDL	BDL	BDL	BDL	BDL				
Acetone	PPM	0.43	0.46	0.42	0.48	0.49	0.46	0.38				
Mercaptan	PPM	BDL	BDL	BDL	BDL	BDL	BDL	BDL				
H2S	PPM	BDL	BDL	BDL	BDL	BDL	BDL	BDL				

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	Analysis Report of Ambient VOC:											
Locat	tion :		SRU Surrounding Area									
MONTH	UOM	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22					
Benzene	PPM	BDL	BDL	BDL	BDL	BDL	BDL					
CCI4	PPM	BDL	BDL	BDL	BDL	BDL	BDL					
Methanol	PPM	BDL	BDL	BDL	BDL	BDL	BDL					
Toluene	PPM	0.16	0.15	0.17	0.16	0.18	0.2					
CH3CI	PPM	BDL	BDL	BDL	BDL	BDL	BDL					
Acetone	PPM	0.21	0.19	0.21	0.23	0.26	0.28					
Mercaptan	PPM	BDL	BDL BDL BDL BDL									
H2S	PPM	1.1	1.2	1	0.95	0.91	0.79					

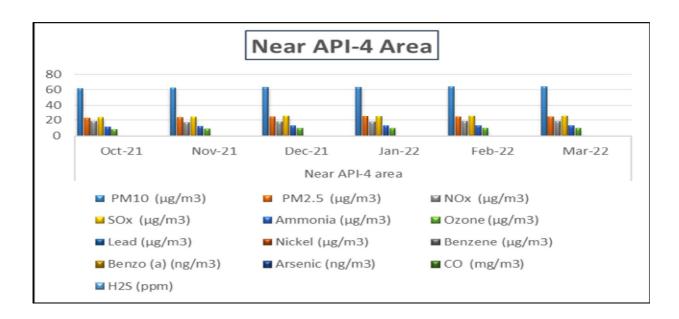
	Analysis Report of Ambient VOC:											
Locat	ion :		Nea	ar Solvent T	Tank form	Area						
MONTH	UOM	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22					
Benzene	PPM	BDL	BDL	BDL	BDL	BDL	BDL					
CCI4	PPM	BDL	BDL	BDL	BDL	BDL	BDL					
Methanol	PPM	BDL	BDL	BDL	BDL	BDL	BDL					
Toluene	PPM	0.14	0.15	0.16	0.18	0.16	0.19					
CH3CI	PPM	BDL	BDL	BDL	BDL	BDL	BDL					
Acetone	PPM	0.25	0.22	0.2	0.19	0.21	0.24					
Mercaptan	PPM	BDL	BDL BDL BDL BDL BDL									
H2S	PPM	1.2	1	1.1	1	0.94	0.86					

Analysis Report of Ambient VOC:								
Locat	tion :	MPSRU Surrounding Area						
MONTH	UOM	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	
Benzene	PPM	BDL	BDL	BDL	BDL	BDL	BDL	
CCI4	PPM	BDL	BDL	BDL	BDL	BDL	BDL	
Methanol	PPM	0.17	0.18	0.15	0.13	0.14	0.17	
Toluene	PPM	0.35	0.32	0.3	0.27	0.24	0.27	
CH3CI	PPM	BDL	BDL	BDL	BDL	BDL	BDL	
Acetone	PPM	0.8	0.76	0.68	0.61	0.58	0.49	
Mercaptan	PPM	BDL	BDL	BDL	BDL	BDL	BDL	
H2S	PPM	2.39	2.14	1.92	1.84	1.59	1.48	



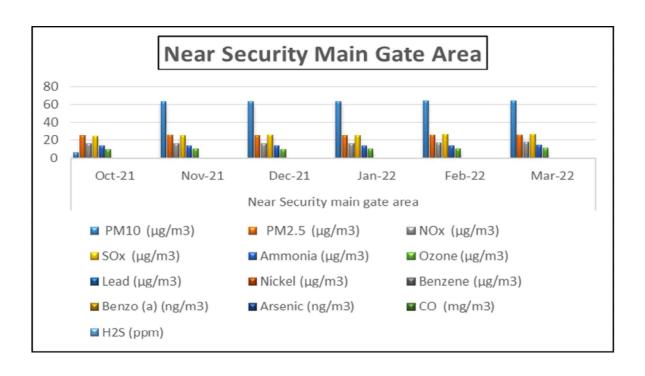
Annexure-III AAQ Monitoring report:

AAQ Monitoring report:							
Location:	on: Near API-4 area						
MONTH	Oct-21 Nov-21 Dec-21 Jan-22 Feb-22						
PM ₁₀ (μg/m3)	61.2	62.54	62.99	63.05	63.7	63.7	
PM _{2.5} (μg/m3)	22.86	23.41	24.67	25.08	24.67	24.67	
NO _x (μg/m3)	18.3	17.38	18.28	18.2	19.07	19.07	
SO _x (µg/m3)	23.5	24.06	25.95	25.23	25.84	25.84	
Ammonia (μg/m3)	11.83	12.36	12.67	12.89	13.46	13.46	
Ozone (µg/m3)	8.44	9.14	9.5	9.85	10.2	10.2	
Lead (μg/m3)	BDL	BDL	BDL	BDL	BDL	BDL	
Nickel (μg/m3)	BDL	BDL	BDL	BDL	BDL	BDL	
Benzene (µg/m3)	BDL	BDL	BDL	BDL	BDL	BDL	
Benzo (a) (ng/m3)	BDL	BDL	BDL	BDL	BDL	BDL	
Arsenic (ng/m3)	BDL	BDL	BDL	BDL	BDL	BDL	
CO (mg/m3)	BDL	BDL	BDL	BDL	BDL	BDL	
H2S (ppm)	BDL	BDL	BDL	BDL	BDL	BDL	



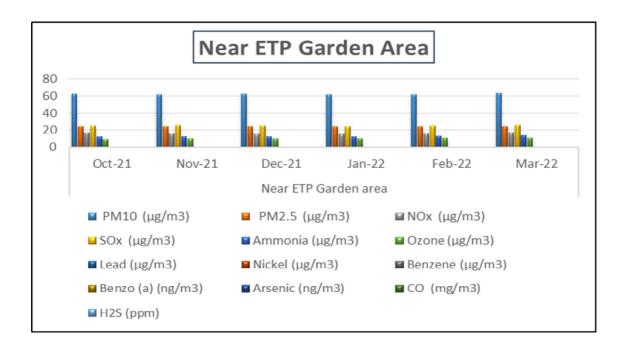


AAQ Monitoring report:											
Location :		Near Security main gate area									
MONTH	Oct-21	Oct-21 Nov-21 Dec-21 Jan-22 Feb-22 Mar-22									
PM ₁₀ (μg/m3)	6.368	63.02	62.87	63.2	63.89	63.68					
$PM_{2.5} \ (\mu g/m3)$	25.35	25.77	24.94	25.35	25.77	26.18					
$NO_x (\mu g/m3)$	16.48	16.54	16.48	16.52	17.37	18.24					
$SO_x (\mu g/m3)$	24.63	25.33	25.87	25.3	26.5	27.12					
Ammonia (μg/m3)	13.47	13.79	14.03	13.78	14.04	14.6					
Ozone (µg/m3)	10.2	10.55	10.2	10.55	10.92	11.25					
Lead (µg/m3)	BDL	BDL	BDL	BDL	BDL	BDL					
Nickel (µg/m3)	BDL	BDL	BDL	BDL	BDL	BDL					
Benzene (µg/m3)	BDL	BDL	BDL	BDL	BDL	BDL					
Benzo (a) (ng/m3)	BDL	BDL	BDL	BDL	BDL	BDL					
Arsenic (ng/m3)	BDL	BDL	BDL	BDL	BDL	BDL					
CO (mg/m3)	BDL	BDL	BDL	BDL	BDL	BDL					
H2S (ppm)	BDL	BDL	BDL	BDL	BDL	BDL					





AAQ Monitoring report:							
Location:	Near ETP Garden area						
MONTH	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	
PM ₁₀ (μg/m3)	61.9	61.76	61.92	61.24	61.47	62.89	
PM _{2.5} (μg/m3)	24.11	24.6	24.19	24.6	24.19	24.6	
NO _x (μg/m3)	17.35	16.58	15.64	15.62	16.48	17.35	
$SO_x (\mu g/m3)$	25.43	26.02	25.29	24.63	25.25	25.87	
Ammonia (μg/m3)	12.15	12.42	12.65	12.06	12.91	13.47	
Ozone (µg/m3)	9.14	9.5	9.85	10.2	10.55	10.9	
Lead (μg/m3)	BDL	BDL	BDL	BDL	BDL	BDL	
Nickel (µg/m3)	BDL	BDL	BDL	BDL	BDL	BDL	
Benzene (µg/m3)	BDL	BDL	BDL	BDL	BDL	BDL	
Benzo (a) (ng/m3)	BDL	BDL	BDL	BDL	BDL	BDL	
Arsenic (ng/m3)	BDL	BDL	BDL	BDL	BDL	BDL	
CO (mg/m3)	BDL	BDL	BDL	BDL	BDL	BDL	
H2S (ppm)	BDL	BDL	BDL	BDL	BDL	BDL	

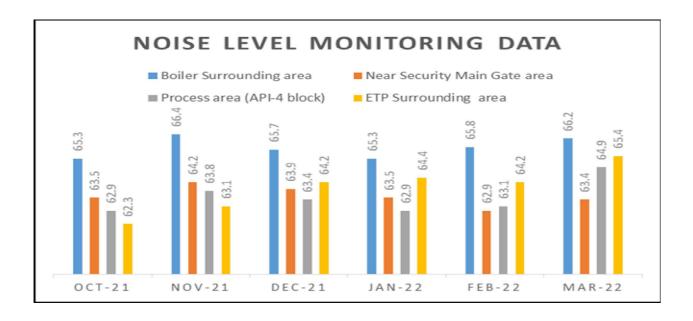




Annexure-IV

Noise Level monitoring data at different places in the Plant

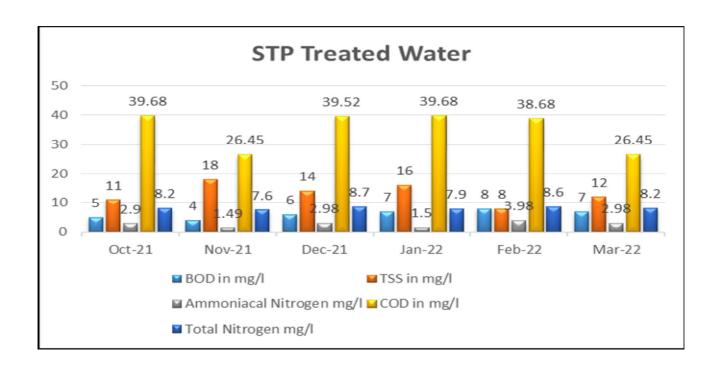
MONTH	Limit	Boiler Surrounding area	Near Security Main Gate area	Process area (API-4 block)	ETP Surrounding area
Oct-21	75dB(A)	65.3	63.5	62.9	62.3
Nov-21	75dB(A)	66.4	64.2	63.8	63.1
Dec-21	75dB(A)	65.7	63.9	63.4	64.2
Jan-22	75dB(A)	65.3	63.5	62.9	64.4
Feb-22	75dB(A)	65.8	62.9	63.1	64.2
Mar-22	75dB(A)	66.2	63.4	64.9	65.4





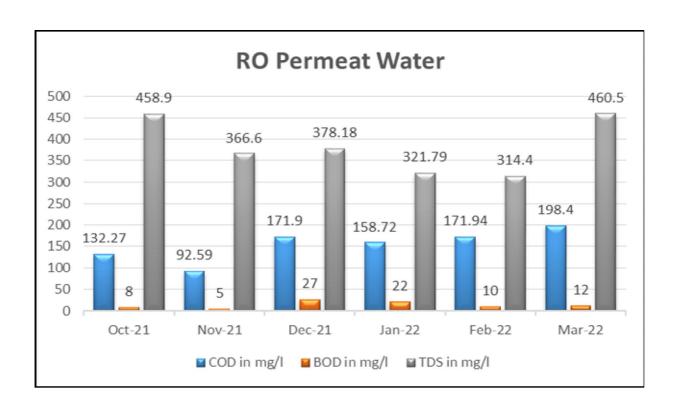
Annexure -V STP and RO_Treated Water Analysis

STP Treat	STP Treated Water Analysis Report for the year from Oct-2021 to Mar-2022									
Parameters	BOD in mg/l	TSS in mg/l	Ammoniacal Nitrogen mg/l	COD in mg/l	Total Nitrogen mg/l					
KSPCB Limits	10	20	10	50	5					
Month			Results							
Oct-21	5	11	2.9	39.68	8.2					
Nov-21	4	18	1.49	26.45	7.6					
Dec-21	6	14	2.98	39.52	8.7					
Jan-22	7	16	1.5	39.68	7.9					
Feb-22	8	8	3.98	38.68	8.6					
Mar-22	7	12	2.98	26.45	8.2					





Parameters	COD in mg/l	BOD in mg/l	TDS in mg/l	
KSPCB Limits	250	30	2100	
Month	<u> </u>		l	
Oct-21	132.27	8	458.9	
Nov-21	92.59	5	366.6	
Dec-21	171.9	27	378.18	
Jan-22	158.72	22	321.79	
Feb-22	171.94	10	314.4	
Mar-22	198.4	12	460.5	





Annexure -VI

SI. No.	Date	Amount Paid To	Location at which CSR activity is carried out	Purpose / Particulars	Actual Amount Spent (Rs.)	Activity Directly by Hikal or through Other Agency
1	Oct'21 to March 22	Mrs. Tara C, Mrs. Tharadevi B, Mr. Madhu & Mr. Byrappa A B	Jigani	Support towards education and skill enhancement by undertaking faculty development program Oct 20 to maech '21 Salary	3,96,000	Hikal
2	Oct-21 to Feb'22	M/s St. John's Hospital	Konasandra Village	As per Request received from Kallubalu panchayat we have helping Financial for medical treatment of Mr.Manjunath (25 years old), resident of Konasandra Village, who has been suffering from chronic kidney ailment.	50,000	Hikal
3	Mar- 22	Internation al Association For Human Values	Yallammana Doddi Lake Development	Yellammanadoddi Lake in Kallabalu Panchayat is a water source for around 5 villages in the vicinity viz. Yellammanadoddi, Krishnadoddi, Madhappanadoddi, Muthurayaswamidoddi, Kupsidayanadoddi & Poojaganapalya etc., Around 2596 people (Male – 1373 Female – 1233) are dependent on this lame as the borewells are connected to this. But lake was in bad shape due to accumulation of unwanted waste, weeds, mud etc., We have taken up this initiative and now it is having water holding capacity four times more than earlier. Also, IIMB second campus is very close to this, and it an eye-catching project appreciated by many. Besides castles, animals and birds will hugely benefit by this. Beautification work done has also been appreciated by public	26,07,800	NGO



25 lakh cheque hand over to CM relief fund





AnnexureVII

