



ENV/60 - 022 /G/1809
Dated: 11.06.2019
ID: 14989

Regional Officer

Gujarat Pollution Control Board,
Plot No, 1501, GIDC Estate,
Ankleshwar.

Subject: Submission of Annual Environmental Statement for the Year 2018-2019.

Dear Sir,

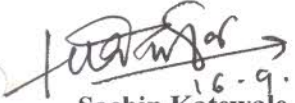
This has reference to above subject matter; we are submitting herewith the Annual Environmental Statement (Form – V) for the financial year 2018 -19.

Hope, the same is in order.

Thanking you,

Your Faithfully,

For Birla Cellulosic


16.9.2019
Sachin Katewale

Asst. Vice President- (Tech. Cell)

Encl: Annual Environmental Statement, Form-V (2018-19).

CC: Mr. A.V. Shah, Unit Head- GPCB, Gandhinagar.

received
Gujarat Pollution Control Board
RO Ankleshwar

20.6.19



Birla Cellulose
Fibres from nature

Grasim Industries Limited
Unit – Birla Cellulosic

Works : Birladham, Kharach Kosamba R.S.
Dist. Bharuch (Gujarat) – 394 120 INDIA
CIN : L17124MP1947PLC000410

Telephone +91 2646 270001-005, 270301-305
Fax +91 2646 270010, 270130
Email bc-kharach.info@adityabirla.com

Liaison Office : 11th Floor – 1101 & 1102 OCEAN, Opposite Vadodara Central Mall, Vikram Sarabhai Marg, Vadiwadi, Vadodara – 390023, Gujarat – India
Regd. Office : P.O. Birlagram, Nagda (MP) – 456 331. Phone : (07366) 246760-66, Fax : 255198, Website : www.grasim.com



ENV/60 - 022 /G/1809
Dated: 11.06.2019
ID: 14989

Regional Officer

Gujarat Pollution Control Board,
Plot No, 1501, GIDC Estate,
Ankleshwar.

Subject: Submission of Annual Environmental Statement for the Year 2018-2019.

Dear Sir,

This has reference to above subject matter; we are submitting herewith the Annual Environmental Statement (Form - V) for the financial year 2018 -19.

Hope, the same is in order.

Thanking you,

Your Faithfully,

For Birla Cellulosic


16.9.2019
Sachin Katewale

Asst. Vice President- (Tech. Cell)

Encl: Annual Environmental Statement, Form-V (2018-19).

CC: Mr. A.V. Shah, Unit Head- GPCB, Gandhinagar.

①
26/06/19
Gujarat Pollution Control Board
Head Office
Sector No. 10-A,
Gandhinagar-382010

20/6/19



Birla Cellulose
Fibres from nature

Grasim Industries Limited
Unit - Birla Cellulosic

Works : Birladham, Kharach Kosamba R.S.
Dist. Bharuch (Gujarat) - 394 120 INDIA
CIN : L17124MP1947PLC000410

Telephone : +91 2646 270001-005, 270301-305
Fax : +91 2646 270010, 270130
Email : bc-kharach.info@adityabirla.com

Liaison Office : 11th Floor - 1101 & 1102 OCEAN, Opposite Vadodara Central Mall, Vikram Sarabhai Marg, Vadiwadi, Vadodara - 390023, Gujarat - India
Regd. Office : P.O. Birlagram, Nagda (MP) - 456 331. Phone : (07366) 246760-66, Fax : 255198, Website : www.grasim.com

FORM - V
(See Rule 14)
Environmental Statement for the financial year ending the 31st March, 2019

PART - A			
i)	Name & address of the Owner/Occupier of the industry, operation or process	-	Mr. Sanjay kumar, Sr. President Birla Cellulosic (A Unit of Grasim Indust. Ltd.), Birladham, Kharach, P.O Kosamba (R.S.) Dist. Bharuch (Gujarat) - 394 120.
ii)	Industry category Primary :- (STC Code) Secondary:- (SIC Code)	-	---
iii)	Production capacity:- Units	-	1,42,350 MT/ Year, Viscose Staple Fibre
iv)	Year of establishment	-	Dec-97
v)	Date of the last environmental statement submitted	-	September, 2018

PART - B			
Water & Raw Material Consumption			
i)	Water consumption - M³/day		
	Process	-	10609
	Cooling & Boiler	-	4613
	Domestic	-	1033
Process water consumption per product output			
Name of products		During the previous Financial year 2017 - 2018 (1)	During the current Financial year 2018-2019 (2)
Viscose Staple Fibre		32.66 M3/T fibre	42.65 M3/T fibre

ii) Raw Material consumption				
sr. No.	* Name of raw materials	Name of Products	Consumption of raw material per unit of output (T/TF)	
			During the previous Financial year 2017 - 2018 (1)	During the current Financial year 2018-2019 (2)
1)	Rayon grade pulp	V.S.F.	1.008	1.008
2)	Caustic Soda	V.S.F.	0.532	0.506
3)	Sulphuric acid	V.S.F.	0.702	0.698
4)	Carbon disulphide	V.S.F.	0.146	0.149

Note: * Industry may use codes if disclosing details of raw materials 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)							
i)	Pollutants	Parameters		Quantity of pollutants discharged (mass/day) TPD, except pH & Temp.	Concentrations of pollutants in discharges		Percentage of variation from the prescribed standard with reasons
a)	Water	Treated Effluent (ETP Outlet)	pH	-	7.20	-	All Values are within permissible limit
			S.Solids	0.47	39.70	mg/l	
			Zinc	0.01	0.90	mg/l	
			BOD	0.52	44.50	mg/l	
			COD	2.23	189.60	mg/l	
			Temp.	-	30.90	deg C.	

b)	Air	Acid Plant emission :	SO2	0.244	0.78	Kg / Ton of Acid mg/NM ³	All Values are within permissible limit - do - - do - - do - - do - - do -
			Acid mist	0.009	24.12		
		Spg. stack emission :	CS ₂	29.20	84.76	Kg/TF	
			SPM	0.157	68	mg/NM ³	
		Plant emission :	SO ₂	0.488	81	ppm	
			NO _x	0.131	33	ppm	

Note :	1. Boiler Stacks height is sufficient to take care of SO ₂ emissions.
	Power plant Stack # 1 : 1 No, 76 meter
	Power plant Stack # 2 : 1 No, 86 meter
	Spinning Stack (Main Plant) : 1 No, 175 meter
	Acid Plant Stack # 1 : 1 No. 75 meter
	CS ₂ plant: : 1 No. 40 meter
	Acid Plant Stack # 2 : 1 No. 75 meter

PART- D
Hazardous Wastes
(As specified under Hazardous Wastes/Management & Handling Rules, 1989)

#	Hazardous wastes	Units	Total Quantity	
			During the previous Financial Year 2017-18	During the current Financial Year 2018-19
a)	From Process Used Oil (Rayon + Power Plant)	lits	6890.00	6230.00
b)	From Pollution control facilities			
	Spent Catalyst V2O5 disposed	MT	0.00	0.00
	Sulphur De-ashing sludge disposed	MT	152.22	141.86

Note:	Hazardous waste(deashing sludge) being disposed to Bharuch Enviro Infrastructure Ltd., GIDC Ankleshwar.
	Used oil being selling to authorized recycler.

PART: E
Solid Wastes

#		Units	Total Quantity	
			During the previous Financial Year 2017-18	During the Current Financial Year 2018-19
a)	From Pollution control facilities			
	ETP Sludge	MT	3680	4275
	Fly-ash from Power Plant	MT	32556	62968
b)	Quantity recycled or re-utilized within the unit			
1.	ETP Sludge	Utilized / Disposed MT	3644	3819
2.	Fly Ash	Utilized Disposed MT MT	32388	57336

Note:	ETP sludge being selling to Cement Industries like M/s Ultra Tech Cement
	100 % Fly ash being utilized as per the MoEF guidelines.

PART - F

Please specify the characterizations (in terms of composition and quantum) of Hazardous

i.	ETP sludge	Please refer Annexure -1A.
ii	Fly ash	Please refer Annexure -1B
iii	Sulphur De-ashing sludge	Please refer Annexure -1C

PART - G

Impact of the pollution control measures on conservation of natural resources and on the cost of Production.

→ Please refer Annexure-2.

PART - H

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

→ Please refer Annexure-3

PART - I

Any other particulars for improving the quality of the environment.

→ Please refer Annexure-4

Name of a person carrying out an Industry - operations or process

Name : **Sachin Katewale**
Designation : **Asst. Vice President-(Tech. Cell)**
Address : **Birla Cellulosic, Kharach
Kosamba (R.S.) - 394 120
Dist. Bharuch (Gujarat)**

ANNEXURE - 1

Annexure - 1(A) : ETP (Gypsum) Sludge

- Sludge produced in Primary as well as in Secondary treatment in Effluent Treatment plant is collected into sludge thickener for its thickening purpose. Sludge is fed to sludge dewatering press (Belt Press) for its dewatering purpose. Further dewatered sludge is dried into sun light to reduce its moisture to < 20 %. The quality of dried sludge (Chemical Birla Cellulosic is sending all necessary legal documents like Hazardous waste Manifest, Trem cards etc. as required during transportation and disposal. Excisable bills are given for sludge to the Purchaser and transported through GPCB & approved transporter from cement mfg unit.
- We are sending Form - IV on monthly basis in XGN online system (On or Before 5th of each month) to GPCB regarding Hazardous waste Management regularly.

Annexure - 1(B) : Fly Ash

- Fly ash which is generated from our captive power plant is managed in a unique way. Following initiatives were taken for its efficient management.
- As per Guidelines of MoEFCC / GPCB, we are selling fly ash to fly ash brick manufacturers within a radius of 100 KM of our thermal power plant. We have promoted the local civil contractors for stabilizing fly ash brick & block manufacturing facility for maximum utilization of fly ash and currently 100 % fly ash is being used for fly ash brick / blocks manufacturing. Civil contractors also selling fly ash bricks to other housing builders / contractors and fly ash bricks are used for housing complexes and buildings at Surat, Vadodara, Bharuch and nearby areas, by that the requirement of fly ash is increasing day by day.
- As per the guidelines of Bharuch District collector and requirement of new fly ash notification there was a technical meeting cum visit of fly ash brick manufacturers at Birla Cellulosic from nearby area. We have provided them the live demonstration of fly ash brick uses in our organization, also they shared their view about the benefits and requirements of fly ash bricks.
- Site visit to all fly ash brick manufacturers within a radius of 100 KM from our plant to know their technical requirements and difficulties. Also we ensure the continuous supply of fly ash to them to run their fly ash manufacturing facilities on continuous basis and shared the technical knowledge to short out their problems.
- Continuous technical & quality control guidance provided to many fly ash brick manufacturers in the region to boost the utilization of fly ash bricks manufacturing and uses.

Annexure - 1(C) : Sulphur / Deashing sludge

- Sulphur / De-ashing sludge is generated in CS2 / Acid plant, Birla Cellulosic is disposing the entire Sulphur De-ashing sludge to TSDF at M/s Bharuch Enviro Infrastructure Limited, Ankleshwar. During transportation we are sending Hazardous waste Manifest and TSDF approved transporters are hired, also we are sending Trem cards with transporters to take the safety measures and environment preservation during transportation of the sludge.
- As per consent conditions, we are disposing around 450 MT of Sulphur De-ashing sludge to landfill site. Prior to dispatch entire de-ashing sludge is collected from the furnace area and shifted to the covered storage godown, where it is filled in the HDPE bags as per the guideline of TSDF for safe disposal. Trucks are called from the registered transporter and when one truck sludge load is stored at the covered shed it is disposed to TSDF safely.

ANNEXURE - 2

Impact of the pollution abatement measures taken on conservation of natural Resources :

Sr. No.	Control Measures adopted	Impact on conservation of natural resources
1	Adoption of frequency drives in dissolver (7 Nos.) in Viscose Dept. to reduce the power consumption per batch	Power reduction - 2898 Kwh / Day
2	Overhauling of inefficient wooden Cooling Towers in Viscose Dept.	Power reduction - 240 Kwh / Day
3	Replacement of old high power consuming split ACs with new energy efficient Acs	Power reduction - 482 Kwh / Day
4	Up gradation of inefficient wooden Cooling Towers in Recovery Dept. to pultruded FRP Cooling Towers.	Power reduction - 1063 Kwh / Day
5	Adoption of higher capacity PC/BC in AAC at Recovery Dept. to reduce run hours for Steam and Power saving.	Power reduction - 1400 Kwh / Day
6	Power saving by replacement of sodium/metal halide with LED (phase manner)	Power reduction - 684 Kwh / Day
7	Installation of River Water RO	Water saving - 767.12 m3/Day
8	By providing scrubber water recycling system	Water saving - 1126.02 m3/Day
9	By providing Wash water recycling system	Water saving - 408.21 m3/Day
10	By installation of Dryer condensate recycling	Water saving - 358.90 m3/Day

ANNEXURE - 3**Additional measures/Investments proposal for Environmental Protection including abatement of pollution & prevention of pollution :**

Sr. No.	Proposals / Schemes	Additional Investments
1	Greenbelt Development	18
2	Maintenance of treated effluent disposal pipeline to estuary (24 KM)	28
3	Storm water drain channel has been modified	35
4	ETP-Gypsum Sludge Shed Area Improved	12
5	Online CEMS system has been improved as per CPCB Guidelines at Captive Power Plant	58
6	Hazardous Waste Area Improvement and Disposal expenses	12
7	Marine Impact Assessment Study at Effluent Disposal Point as per EC Compliance	32
Total Expenditures (Rs. In Lacs)		195.00

ANNEXURE - 4

- 1 Our motto is green productivity which includes preservation of natural resources which is also the part of our Environment Policy. We have constructed around 24 KM pipeline for disposal of treated effluent into the estuary.
- 2 We are developing awareness on environment by organizing different training programmes for our employees including new joinees. We are regularly celebrating World Environment Day on 5th June in which a tree plantation drive is organized in our plant & colony to boost the green productivity movement, also we are developing the environmental awareness among our school going students in our colony school as well as nearby schools.
- 3 Unit has changed the MOC of scrubber unit with FRP and taking the all precautionary measures for 100% availability.
- 4 We are sending all ETP sludge to Cement Industries which is being used as a raw material (chemical gypsum).
- 5 Green belt is developed around the plant & colony and continuous improvement in green belt by planting more & more trees to reduce the dust emission within the factory and nearby areas.
- 6 Alk Cell Spillage reduced in cooling device, Maturing drum using Blowers, cyclone better sealing.
- 7 CS2 Recovery has been increased by 0.5 % after replacement of 3rd condensor.
- 8 Reduction in water consumption 100 M3/day in CS2/Acid plant through various water reduction scheme.
- 9 Unit has taken target of reduction in energy by 20% in next three years starting from FY-12 and accordingly unit has taken several actions and achieved the bench mark for energy consumption per ton of product. Unit has created awareness for energy saving all around and every one in our organization is working towards the common goal of saving energy.
- 10 Ambient Air Quality Monitoring Stations (AAQMS) have been Installed at 3 nos. of Different location at Plant Premises and 3 nos. of AAQMS installed at Downwind villages.
- 11 Exhaust duct taken at low height at stretch roller of both machines for improving the work room environment.
- 12 Perfect sealing in exhaust duct for effective suction of exhaust gases.
- 13 M/C#1 cutter exhaust improved to improve the work room environment.
- 14 Scheduled cleaning of exhaust pot started in shift in regeneration section.
- 15 All dampers attended to isolate standby fans for planned maintenance.
- 16 Cold sump zone tower acidic fumes going in vapor attended by modifying discharge air duct.

A full fledged RO has been installed for treating the blow down water in cooling waters of auxiliary department and recycling the same to process. (~1000 M3/day).
- 17
- 18 Vacuum pump exhaust is connected to exhaust fan and the discharge water is charged to cooling tower. This has improved the work environment and saving of raw water.
- 19 Scrubber height with FRP deflectors (in calcinations section) is increased this has reduced the carry over of salt to atmosphere due to scrubber exit end gases with water.
- 20 RO reject is used for lime & poly preparation (700 m3/day).
- 21 New exhaust fan installed in spin bath section to improve the work environment.
- 22 Spin bath circulation pump strainer modified this reduced the spillages spin bath during strainer cleaning as it is in drained in overflow tank.
- 23 Major modifications carried out at spinning machine to improve the effective squeezing

of spin bath and reducing the carry over of the salt. Salt recovery increased by 3 - 4 %.

- 24 CS2 furnace de-ashing time reduced to 40 %.
- 25 New RO commissioning at Auxiliary Department and reduce the water consumption from 3102 M3/ Day to 2371 M3/ Day.
- 26 Online TOC & pH meter are installed at the outlet of treated effluent to measure the TOC values before pumping it to estuary.
- 27 Lawns developed at 3 locations at the plant to improve the land & environment.
- 28 Following additional equipments are installed at ETP as a part of expansion & to improve the performance of ETP --
 - i Sludge Thickener
 - ii Secondary Clarifier
 - iii Belt Press
 - iv Replacement of 4 no. 20 HP aerators with 40 HP aerators
- 29 Installation of Chlorine detector at chlorine dosing area
- 30 New RCC platform for storage, drying & disposal of chemical Gypsum (ETP sludge) for efficient drying with adequate leachate collection system.
- 31 Construction of new storm water drain from the outlet of natural pond by investing Rs. 75 Lacs for discharge of rain water during rainy season, this has facilitated zero water logging on roads and avoided flood like situation in township
- 32 Additional Planted 100 Ha. Mangroove plant at RONIYO island at Bhavnagar.
- 33 Unit has developed green belt in plant premises in area of about 25 Acre.
- 34 Unit has taking initiatives to Recycle the Effluent by RO plant.
- 35 In CS2 Plant, Installation of new furnace at SRP to improve the sulphur recovery in scrubber and reduce the consumption of caustic
- 36 Unit has constructed sludge yard to provide the adequate storage facility for ETP sludge (Gypsum) so that the easily possible to handle in monsoon.
- 37 Unit has celebrated the World Environmental Awareness program for employees and colony people with 200 Nos. of Tree Plantations.
- 38 To install RO of 3200 m3/day for MSFE condensate water and to utilize permeate water for main process.
- 39 We have planted different type of trees in campus ~1, 80, 000 Nos in area of 150 acre. (A Tree plantation norm is 1000 trees per acre).

Environment & Social awards

- 1 Corporate citizen award for excellence in social development
- 2 Green Tech Gold Award for Environment Excellence
- 3 EKDKN Exceed award for CSR activities

Quality TOM awards

- 1 Rajiv gandhi National Quality award (commendation)
- 2 QCFI awards for best corporate support
- 3 Rajiv gandhi National Quality award (best of all)
- 4 CII exim bank award (Strong commitment for TQM)
- 5 Ramkrishna National quality award (Best of all)
- 6 Deming quality control award
- 7 CII exim bank award (significant achievement)
- 8 CII exim bank award (significant achievement)
- 9 Lab Team's ICCQC gold award
- 10 Spinning team's ICCQC Gold award
- 11 Recovery Team's VCCQC gold award

Manufacturing Excellence Awards

- 1 Chairman's silver award for manufacturing Excellence
- 2 Chairman's gold award for manufacturing Excellence