



Maharashtra Pollution Control Board

महाराष्ट्र प्रदूषण नियंत्रण मंडळ

FORM V

Environmental Audit Report for the financial Year ending the 31st March 2020

Unique Application Number

MPCB-ENVIRONMENT_STATEMENT-0000027667

Submitted Date

25-09-2020

Company Information

Company Name

Grasim Industries Limited (Unit - Century Rayon)

Application UAN number

N.A.

Address

P B. No. 22, Murbad Road

Plot no

45,53,56,57,58,59,76,77,78,201,202,207

Taluka

Ulhasnagar

Village

Shahad

Capital Investment (In lakhs)

73022.28

Scale

Large

City

Ulhasnagar

Pincode

421103

Person Name

Subodh Dave

Designation

Joint President (P&A)

Telephone Number

02512733670

Fax Number

02512730064

Email

s.dave@adityabirla.com

Region

SRO-Kalyan II

Industry Category

Red

Industry Type

R47 Synthetic fibers including rayon ,tyre cord, polyester filament yarn

Last Environmental statement submitted online

yes

Consent Number

Formate1.0 / CAC/UAN
No.0000069930/CO-2003001093

Consent Issue Date

17.03.2020

Consent Valid Upto

30.09.2021

Product Information

Product Name

Viscose Filament Yarn

Consent Quantity

29300

Actual Quantity

22416

UOM

MT/A

Sulphuric Acid

76000

72622

MT/A

Carbon-Di-Sulphide

20000

16595

MT/A

By-product Information

By Product Name

Sodium Sulphide

Consent Quantity

1870

Actual Quantity

1465

UOM

MT/A

Anhydrous Sodium Sulphate

18900

13453

MT/A

1) Water Consumption in m3/day

Water Consumption for Process

Consent Quantity in m3/day

14658

Actual Quantity in m3/day

12328

Cooling

2000

1510

Domestic

2318

2115

All others	N.A.	NA
Total	18976	15953

1) Effluent Generation in CMD / MLD

Particulars	Consent Quantity	Actual Quantity	UOM
Trade Effluent	15000	12084	CMD
Domestic Effluent	300	280	CMD

2) Product Wise Process Water Consumption (cubic meter of process water per unit of product)

Name of Products (Production)	During the Previous financial Year	During the current Financial year	UOM
Viscose Filament Yarn	190.92	199.0	Ton/Ton
Sulphuric Acid	1.47	1.52	Ton/Ton
Carbon di Sulphide	3.33	4.14	Ton/Ton

3) Raw Material Consumption (Consumption of raw material per unit of product)

Name of Raw Materials	During the Previous financial Year	During the current Financial year	UOM
Rayon Wood Pulp	1.029	1.041	Ton/Ton
Rayon Caustic Soda	0.606	0.608	Ton/Ton
Rayon Carbondisulphide	0.282	0.281	Ton/Ton
Rayon Sulphuric Acid	0.905	0.911	Ton/Ton
Rayon Zinc	0.006	0.006	Ton/Ton
T/C Woodpulp	1.020	1.010	Ton/Ton
T/C Caustic Soda	0.706	0.698	Ton/Ton
T/C Carbondisulphide	0.315	0.309	Ton/Ton
T/C Sulphuric Acid	0.862	0.868	Ton/Ton
T/C Zinc	0.010	0.009	Ton/Ton
CSY Woodpulp	1.030	1.041	Ton/Ton
CSY Caustic Soda	0.638	0.636	Ton/Ton
CSY Carbondisulphide	0.276	0.276	Ton/Ton
CSY Sulphuric Acid	1.471	1.435	Ton/Ton
CSY Zinc	0.019	0.018	Ton/Ton
Sulphur in Sulphuric Acid plant	0.328	0.328	Ton/Ton
Sulphur in CS2 plant	0.913	0.912	Ton/Ton
Charcoal in CS2 plant	0.301	0.329	Ton/Ton

4) Fuel Consumption

Fuel Name	Consent quantity	Actual Quantity	UOM
Coal & Charcoal Churi	97090	80996	MT/A
LSHS/FO	29200	103.16	MT/A

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

[A] Water

Pollutants Detail	Quantity of Pollutants discharged (kL/day)	Concentration of Pollutants discharged(Mg/Lit) Except PH,Temp,Colour	Percentage of variation from prescribed standards with reasons	Standard	Reason
	Quantity	Concentration	%variation		
Suspended Solids	331.85	29.42	-	100 mg/l	-
C.O.D	806.59	71.50	-	250 mg/l	-
B.O.D. (3 days at 27oC)	214.34	19.0	-	30 mg/l	-
Oil & Grease	58.29	5.17	-	10 mg/l	-
Zinc	28.01	2.48	-	5 mg/l	-

[B] Air (Stack)

Pollutants Detail	Quantity of Pollutants discharged (kL/day)	Concentration of Pollutants discharged(Mg/NM3)	Percentage of variation from prescribed standards with reasons	Standard	Reason
	Quantity	Concentration	%variation		
i. CS2	9940.68	208.14	-	300 mg/Nm3	-
ii. H2S	2004.76	41.98	-	70 mg/Nm3	-
iii. SO2 from Coal Fired Boiler	3340	891.23	-	5320 Kgs/day	-
iv. SO2 from Acid Plant	378.03	686.11	-	3.5 Kg/T of sulfuric acid production (728 Kgs/day)	-
v. SOx from D G Set	-	-	-	7200 Kgs/day	Standby
v. NOx from D G Set	-	-	-	100 ppm	Standby
v. Acid Mist	3.28	11.41	-	50 mg/Nm3	-

HAZARDOUS WASTES

1) From Process

Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
17.2 Spent catalyst	1.93	3.19	MT/A
Other Hazardous Waste	150.96	177.74	MT/A
5.1 Used or spent oil	14.70	31.34	MT/A
5.2 Wastes or residues containing oil	0.00	0.00	MT/A
33.2 Contaminated cotton rags or other cleaning materials	0.00	0.00	MT/A
33.1 Empty barrels/containers/liners contaminated with hazardous chemicals /wastes	0.00	0.00	MT/A
35.2 Spent ion exchange resin containing toxic metals	0.00	0.00	MT/A

2) From Pollution Control Facilities

Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
35.3 Chemical sludge from waste water treatment	1344.16 (on dry basis)	3679.37 (as such basis)	MT/A

SOLID WASTES

1) From Process

Non Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
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Dry Viscose, Trash Sweeping Waste Cellulose from Rayon and T.C. plant, Civil debris & Burnt Charcoal	6843	5104	MT/A
Yarn Waste	696.26	649.46	MT/A

2) From Pollution Control Facilities

Non Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
Cinder Ash & Fly Ash	13336	11148	MT/A
Bio Sludge	-	36	MT/A

3) Quantity Recycled or Re-utilized within the unit

Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
0	-	-	MT/A

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

1) Hazardous Waste

Type of Hazardous Waste Generated	Qty of Hazardous Waste	UOM	Concentration of Hazardous Waste
35.3 Chemical sludge from waste water treatment	3679.37	MT/A	NA, Disposal at CHWTSDF (MWML,Taloja)
17.2 Spent catalyst	3.19	MT/A	NA, Disposal at CHWTSDF (MWML,Taloja)
Other Hazardous Waste	177.74	MT/A	NA, Disposal at CHWTSDF (MWML,Taloja)
5.2 Wastes or residues containing oil	0.00	MT/A	NA
5.1 Used or spent oil	31.34	MT/A	Sent to Authorized Recycler
33.2 Contaminated cotton rags or other cleaning materials	0.00	MT/A	Newly added category in consent dated 17.03.2020
33.1 Empty barrels/containers/liners contaminated with hazardous chemicals /wastes	0.00	MT/A	Newly added category in consent dated 17.03.2020
35.2 Spent ion exchange resin containing toxic metals	0.00	MT/A	Newly added category in consent dated 17.03.2020

2) Solid Waste

Type of Solid Waste Generated	Qty of Solid Waste	UOM	Concentration of Solid Waste
Trash, Sweeping, Waste Cellulose from Rayon & T.C., Civil Debris & De ased Charcoal	5104	MT/A	NA
Cinder Ash & Fly Ash	11148	MT/A	-
Bio Sludge	36	MT/A	-
Yarn Waste	649.46	MT/A	-

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

Description	Reduction in Water Consumption (M3/day)	Reduction in Fuel & Solvent Consumption (KL/day)	Reduction in Raw Material (Kg)	Reduction in Power Consumption (KWH)	Capital Investment(in Lacs)	Reduction in Maintenance(in Lacs)
Modification in Rayon Spg. Air washer fan No.1,5& 9 and duct for energy saving	-	-	-	215640	16.00	-

Replacement of chilled water & Condenser water pump by energy efficient pump at Rayon engine room	-	-	-	348078	37.50	-
Repl. Of fluorescent light fittings by LED lights in Rayon Spinning hall no. 2, &3	-	-	-	86461	17.18	-
Energy saving by installation of VFDs (2 sets of 17 nos. each) for new AT washing line pumps (B & C)	-	-	-	257555	56.00	-
Energy saving by installation of VFDs (4 nos.) for Rayon viscose dissolver agitator speed optimization.	-	-	-	140800	26.33	-
Replacement of dissolver "V"belt pulley drive with high density synchronous belt drive in other dissolvers (No.1,3 &6)	-	-	-	24010	5.91	-
Replacement of old reciprocating air compressors by screw compressor (LP instrument air) with VFD in Tyre Cord Engine Room.	-	-	-	68400	9.40	-
Energy saving by installing VFDs on superheated water pumps for CSY M/C no. 45 to 50 in CSY plant.	-	-	-	52560	6.40	-
Replacement of 200 nos. Conventional 18 w Tube Lights fitting by 9w LED Tube light fitting in CSY Plant.	-	-	-	19272	2.00	-
Replacement of copper choke of 18W,2 Ft Tube light by Electronic ballast fittings. (200 nos.)	-	-	-	24528	0.19	-
VFD for new effluent pump	-	-	-	35040	2.00	-
Installation of VFD for Colony (Girivihar) Pump No. 1.	-	-	-	23360	2.16	-
Replacement of reciprocating air compressor No 2 (100 / 125 CFM) by Screw compressor	-	-	-	39600	6.50	-
Replacement of 20 nos. 160 W Conventional lighting fixture to 60 W LED lighting Fixture	-	-	-	8030	1.25	-

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

[A] Investment made during the period of Environmental Statement

Detail of measures for Environmental Protection

Environmental Protection Measures

Capital Investment (Lacks)

Modification in Rayon Spg. Air washer fan No.1,5& 9 and duct for energy saving

Implementation of Energy Saving scheme

16.00

Replacement of chilled water & Condenser water pump by energy efficient pump at Rayon engine room

Implementation of Energy Saving scheme

37.50

Repl. Of fluorescent light fittings by LED lights in Rayon Spinning hall no. 2, &3	Implementation of Energy Saving scheme	17.18
Energy saving by installation of VFDs (2 sets of 17 nos. each) for new AT washing line pumps (B & C)	Implementation of Energy Saving scheme	56.00
Energy saving by installation of VFDs (4 nos.) for Rayon viscose dissolver agitator speed optimization.	Implementation of Energy Saving scheme	26.33
Replacement of dissolver "V'belt pulley drive with high density synchronous belt drive in other dissolvers (No.1,3 &6)	Implementation of Energy Saving scheme	5.91
Replacement of old reciprocating air compressors by screw compressor (LP instrument air) with VFD in Tyre Cord Engine Room.	Implementation of Energy Saving scheme	9.40
Energy saving by installing VFDs on superheated water pumps for CSY M/C no. 45 to 50 in CSY plant.	Implementation of Energy Saving scheme	6.40
Replacement of 200 nos. Conventional 18 w Tube Lights fitting by 9w LED Tube light fitting in CSY Plant.	Implementation of Energy Saving scheme	2.00
Replacement of copper choke of 18W,2 Ft Tube light by Electronic ballast fittings. (200 nos.)	Implementation of Energy Saving scheme	0.19
VFD for new effluent pump	Implementation of Energy Saving scheme	2.00
Installation of VFD for Colony (Girivihar) Pump No. 1.	Implementation of Energy Saving scheme	2.16
Replacement of reciprocating air compressor No 2 (100 / 125 CFM) by Screw compressor	Implementation of Energy Saving scheme	6.50

[B] Investment Proposed for next Year

Detail of measures for Environmental Protection

<i>Detail of measures for Environmental Protection</i>	<i>Environmental Protection Measures</i>	<i>Capital Investment (Lacks)</i>
Motorized guillotine door installation at ID fan outlet of AFBC Boiler.	Energy Saving scheme	6.20
Replacement of Feed water pump no.2 (detoriated efficiency) with new Energy efficient Pump.	Energy Saving scheme	18.0
Replacement of Feed water heater (Detoriated performance.) with New feed water heater.	Energy Saving scheme	16.0
Repl. Of fluorescent light fittings by LED lights in Rayon Spinning hall no. 2, &3	Energy Saving scheme	5.32

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

Particulars

Grasim Industries Limited (Unit Century Rayon) lays high emphasis on Environmental Improvement programme like plantation of trees in its premises and surrounding areas. A record number of approx 85096 saplings have survived so far. During last year alone, about 7200 trees have been planted. Varieties of planted trees are based on seasonal climate and nature of soil as tested at our own Horticulture Department. The trees planted are, Peltophurum, Acacia, Cassurina, Cassia, Gold Mohar, Rain Tube

Name & Designation

Subodh Dave - Joint President (P&A)