



Maharashtra Pollution Control Board

महाराष्ट्र प्रदूषण नियंत्रण मंडळ

FORM V

(See Rule 14)

Environmental Audit Report for the financial Year ending the 31st March 2022

Unique Application Number

MPCB-ENVIRONMENT_STATEMENT-0000049690

Submitted Date

30-09-2022

PART A

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)

75362.70

Scale

Large

City

Ulhasnagar

Pincode

421103

Person Name

Prakash S Bhat

Designation

General Manager

Telephone Number

02512733670

Fax Number

02512730064

Email

prakash.s.bhat@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

Format1.0/CAC/UAN
No.MPCBCONSENT-0000118943/CR/2204001628

Consent Issue Date

24.04.2022

Consent Valid Upto

30.09.2026

Establishment Year

1956

Date of last environment statement submitted

Sep 21 2021 12:00:00:000AM

Industry Category Primary (STC Code) & Secondary (STC Code)

Product Information

Product Name

Viscose Filament Yarn

Consent Quantity

29300

Actual Quantity

23352

UOM

MT/A

Sulphuric Acid

76000

72349

MT/A

Carbon-Di-Sulphide

20000

18716

MT/A

By-product Information

By Product Name

Consent Quantity

Actual Quantity

UOM

Sodium Sulphide	1870	1725	MT/A
Anhydrous Sodium Sulphate	18900	14091	MT/A

Part-B (Water & Raw Material Consumption)

1) Water Consumption in m3/day

Water Consumption for Process	Consent Quantity in m3/day	Actual Quantity in m3/day
Cooling	14658.00	13126.00
Domestic	2000.00	1515.00
All others	2318.00	1952.00
All others	0.00	0.00
Total	18976.00	16593.00

2) Effluent Generation in CMD / MLD

Particulars	Consent Quantity	Actual Quantity	UOM
Trade Effluent	13300	10721	CMD
Industry Domestic Effluent	300	250	CMD
Colony Domestic Effluent	1200	777	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	194.13	189.67	Ton/Ton
Sulphuric Acid	1.89	1.63	Ton/Ton
Carbon di Sulphide	3.57	2.80	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
PSY Wood Pulp	1.036	1.037	Ton/Ton
PSY Caustic Soda	0.594	0.597	Ton/Ton
PSY Carbon-di-sulphide	0.279	0.279	Ton/Ton
PSY Sulphuric Acid	0.921	0.905	Ton/Ton
PSY Zinc	0.006	0.006	Ton/Ton
T/C Wood pulp	1.031	1.018	Ton/Ton
T/C Caustic Soda	0.813	0.721	Ton/Ton
T/C Carbondisulphide	0.314	0.319	Ton/Ton
T/C Sulphuric Acid	1.002	0.868	Ton/Ton
T/C Zinc	0.009	0.009	Ton/Ton
CSY Woodpulp	1.054	1.052	Ton/Ton
CSY Caustic Soda	0.664	0.644	Ton/Ton
CSY Carbondisulphide	0.279	0.282	Ton/Ton
CSY Sulphuric Acid	1.471	1.476	Ton/Ton
CSY Zinc	0.019	0.019	Ton/Ton

Sulphur in Sulphuric Acid plant	0.329	0.329	Ton/Ton
Sulphur in CS2 plant	0.911	0.913	Ton/Ton
Charcoal in CS2 plant	0.295	0.297	Ton/Ton

4) Fuel Consumption

Fuel Name	Consent quantity	Actual Quantity	UOM
Coal & Charcoal Churi	97090	85720	MT/A
LSHS/FO	29200	116.89	MT/A

Part-C

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	214.42	20.00	-	100 mg/l	-
C.O.D	602.16	56.17	-	250 mg/l	-
B.O.D. (3 days at 27oC)	176.90	16.5	-	30 mg/l	-
Oil & Grease	48.42	4.52	-	10 mg/l	-
Zinc	20.82	1.94	-	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	8728.35	206.30	-	300 mg/Nm3	-
ii. H2S	1868.62	44.17	-	70 mg/Nm3	-
iii. SO2 from Coal Fired Boiler	2960	789.84	-	5320 Kgs/day	-
iv. SO2 from Acid Plant	277.50	510.42	-	3.5 Kg/T of sulfuric acid production (728 Kgs/day)	-
v. SOx from D G Set	0	0	-	7200 Kgs/day	Standby
v. NOx from D G Set	0	0	-	100 ppm	Standby
v. Acid Mist	3.53	12.25	-	50 mg/Nm3	-

Part-D

HAZARDOUS WASTES

1) From Process

Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
17.2 Spent catalyst	2.27	2.52	MT/A
Other Hazardous Waste	188.81	229.33	MT/A
5.1 Used or spent oil	19.981	10.41	MT/A

5.2 Wastes or residues containing oil	0.00	20.26	MT/A
33.2 Contaminated cotton rags or other cleaning materials	5.43	7.19	MT/A
33.1 Empty barrels /containers /liners contaminated with hazardous chemicals /wastes	0.00	3.03	MT/A
35.2 Spent ion exchange resin containing toxic metals	0.00	8.67	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	2449.59	3982.43	MT/A

Part-E

SOLID WASTES

1) From Process

Non Hazardous Waste Type	Total During Previous Financial year	Total During Current Financial year	UOM
Dry Viscose, Trash Sweeping Waste Cellulose from Rayon and T.C. plant, Civil debris & Burnt Charcoal	4248	6194	MT/A
Yarn Waste	449	709.48	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	6523	11908	MT/A
Bio Sludge	86	81.66	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	0	0	MT/A

Part-F

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

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	3982.43	MT/A	NA, Disposal at CHWTSDF (MWML,Taloja)
17.2 Spent catalyst	2.52	MT/A	NA, Disposal at CHWTSDF (MWML,Taloja)
Other Hazardous Waste	229.33	MT/A	NA, Disposal at CHWTSDF (MWML,Taloja)
5.2 Wastes or residues containing oil	20.26	MT/A	Sent to Authorized recycler
5.1 Used or spent oil	10.41	MT/A	Sent to Authorized recycler
33.2 Contaminated cotton rags or other cleaning materials	7.19	MT/A	isposal at CHWTSDF (MWML,Taloja)
35.2 Spent ion exchange resin containing toxic metals	8.67	MT/A	isposal at CHWTSDF (MWML,Taloja)
33.1 Empty barrels /containers /liners contaminated with hazardous chemicals /wastes	3.03	MT/A	Sent to recycler

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	6194	MT/A	NA
Cinder Ash & Fly Ash	11908	MT/A	-

Part-G

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 of Spinning Air washer Fan 3, 4 & 7. (Replacemnt of Two old and low capacity fans by single high capacity fan and relocated near to discharge Duct)	0	0	00	257964	22	0
Modification of Air Washer Unit to AHU by replacing ump and spray nozzels with Cooling coil.	0	0	00	11340	0.72	0
Rerouting of Chilled water return line from Textile air washers and various AHUs.	0	0	00	167421	27	0
Optimization of Converter room AHUs motor speed with VFD Installation.	0	0	00	34953	6	0
Replacement of rewinded and old HF transformers of PSY machines.	0	0	00	93039	22	0
Reduction of Worm Gearbox with Helical geared Motor in Spun Dye unit spinning tank agitator	0	0	00	15061	1.96	0
Installation of ATCS for Centrifugal chiller no.4 for Evaporator & Condenser Side	0	0	00	195336	18	0
Optimization of 6 Kg compressed air system by providing intelligent demand side control system.	0	0	00	35980	5.5	0
Installation of VFD for CSY Air washer no.7 & 13 (@240days)	0	0	00	45447	1.84	0
VFD Provision for water recycler pump no.1	0	0	00	38477	4.0	0
Replacement Old conventional tube light by LED lights 850 nos. of CSY Machines	0	0	00	89352	9.3	0
Provision of Voltage stabilizer for Lighting DB in CSY Plant	0	0	00	56064	4.0	0
Replacement of reciprocating air compressor No 6 (100 / 125 CFM) by Screw compressor-Boiler House	0	0	00	32088	5.8	0

Replacement of V bet drive with Energy Efficient Flat Belt Drive in Air Compressor No 7	0	0	00	8475	1.6	0
Motorized guillotine door installation at ID fan outlet of AFBC Boiler to avoid recirculation of flue gas during stand by condition.	0	0	00	20064	6.2	0
Replacement of Old Conventional 19 nos.celling fans with BLDC Fan.	0	0	00	2845	0.44	0
Replacement of 12Nos 70 Watt Metal Halide Fittings with 45 Watt LED tube light fitting in 'O' Type Worker Quarter.	0	0	00	1205	0.28	0
Installation of Roof Top 42 KW Solar PV plant on Roof top of Main Sub Station.	0	0	00	61000	18	0
25 HP VFD with starter panel for Girvihar Pump No.2.	0	0	00	11754	2.75	0

Part-H

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

Detail of measures for Environmental Protection	Environmental Protection Measures	Capital Investment (Lacks)
Modification of Spinning Air washer Fan 3, 4 & 7. (Replacemnt of Two old and low capacity fans by single high capacity fan and relocated near to discharge Duct)	Implementation of Energy Saving scheme	22
Modification of Air Washer Unit to AHU by replacing ump and spray nozzels with Cooling coil.	Implementation of Energy Saving scheme	0.72
Rerouting of Chilled water return line from Textile air washers and various AHUs.	Implementation of Energy Saving scheme	27
Optimization of Converter room AHUs motor speed with VFD Installation.	Implementation of Energy Saving scheme	6
Replacement of rewinded and old HF transformers of PSY machines.	Implementation of Energy Saving scheme	20.7
Reduction of Worm Gearbox with Helical geared Motor in Spun Dye unit spinning tank agitator	Implementation of Energy Saving scheme	1.96
Installation of ATCS for Centrifugal chiller no.4 for Evaporator & Condenser Side	Implementation of Energy Saving scheme	18
Optimization of 6 Kg compressed air system by providing intelligent demand side control system.	Implementation of Energy Saving scheme	5.5
Installation of VFD for CSY Air washer no.7 & 13 (@240days)	Implementation of Energy Saving scheme	6.32
VFD Provision for water recycler pump no.1	Implementation of Energy Saving scheme	4.0
Replacement Old conventional tube light by LED lights 850 nos. of CSY Machines	Implementation of Energy Saving scheme	9.3
Provision of Voltage stabilizer for Lighting DB in CSY Plant	Implementation of Energy Saving scheme	4.0
Replacement of reciprocating air compressor No 6 (100 / 125 CFM) by Screw compressor-Boiler House	Implementation of Energy Saving scheme	5.8
Replacement of V bet drive with Energy Efficient Flat Belt Drive in Air Compressor No 7	Implementation of Energy Saving scheme	1.6
Motorized guillotine door installation at ID fan outlet of AFBC Boiler to avoid recirculation of flue gas during stand by condition.	Implementation of Energy Saving scheme	6.2

Replacement of Old Conventional 19 nos. ceiling fans with BLDC Fan.	Implementation of Energy Saving scheme	0.44
Replacement of 12Nos 70 Watt Metal Halide Fittings with 45 Watt LED tube light fitting in 'O' Type Worker Quarter.	Implementation of Energy Saving scheme	0.28
Installation of Roof Top 42 KW Solar PV plant on Roof top of Main Sub Station.	Implementation of Energy Saving scheme	18
25 HP VFD with starter panel for Girvihar Pump No.2.	Implementation of Energy Saving scheme	2.75

[B] Investment Proposed for next Year

Detail of measures for Environmental Protection

Detail of measures for Environmental Protection	Environmental Protection Measures	Capital Investment (Lacks)
Replacement of conventional lights by LED lights in Spin bath and AT section.	Energy Saving scheme	25.16
Upgradation of conventional AHU system by energy efficient BLDC motor based system.	Energy Saving scheme	15.0
Upgradation of conventional ceiling fans by energy efficient BLDC fans.	Energy Saving scheme	3.0
Replacement of old inefficient motors above 50HP.	Energy Saving scheme	30.95
Conversion from V belt drive to Energy efficient flat belt drive in AHU & Spg. Exhaust fans.	Energy Saving scheme	10.0
Installation of Rotary Vacuum pump for New AT washing line	Energy Saving scheme	5.5
Replacement of old air compressors by screw compressor in Engine room.	Energy Saving scheme	28.0
Replacement of conventional lights by LED lights in Spinning section.	Energy Saving scheme	27.6
Provision Of Vfd Along With Panel For CSY Soft Water Pump -2 Nos. (45kw)	Energy Saving scheme	10.5
Replacement Of Old Condenser Water Pump With Energy Efficient Pump And Motor - 2 Nos. (E/R) @365 Days	Energy Saving scheme	30.0
Upgradation And Energy Efficient Humidification System For CSY Hall No.1 (CSY M/C 1 To 12) @300days	Energy Saving scheme	35.0
Replacement Old conventional tube light by LED	Energy Saving scheme	10.0
Replacement of Old Transformer S1.	Energy Saving scheme	37.5
Replacement of old Transformer RC-3.	Energy Saving scheme	1.37
Replacement of reciprocating air compressor No 5 (250 CFM) by Screw compressor-Boiler House	Energy Saving scheme	7.8
Upgradation of TG-1 by Installing New Rotor and Diaphragms for Energy Efficiency-Boiler House	Energy Saving scheme	150.0
Installation of Roof Top 50 KW Solar PV plant in Vishram Bhawan	Energy Saving scheme	40.0
Reduction of KVAH consumption by controlling & through Management of plant Reactive Power with Installation of closed loop Auto system.	Energy Saving scheme	23.0
Replacement Old Conventional Tube lights By Led Of 12 CSY Machines.	Energy Saving scheme	4.5

Part-I

Any other particulars for improving the quality of the environment.

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 91436 saplings have survived so far. During last year alone, about 7250 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

Prakash Bhat - General Manager (EHS)

UAN No:

Submitted On:

30-09-2022