



Natco Pharma Limited

Regd. Off. : 'NATCO HOUSE', Road No. 2, Banjara Hills, Hyderabad-500 034.
Telangana, INDIA. Tel : +91 40 23547532, Fax : +91 40 23548243
CIN : L24230TG1981PLC003201, www.natcopharma.co.in



03rd September 2022

o/c

To
The Environmental Engineer
T.S.P.C.B., Regional Office – Hyderabad
IVth Floor, Hyderabad Collectorate Complex,
Nampally Station Road,
HYDERABAD – 500 001

Sir,

Sub: Submission of Environmental Statement in Form-V for the Year 2021-22.

We M/s. Natco Pharma Limited-Chemical Division are herewith submitting the Environmental Statement in Form-V for the year 2021-22 for your kind perusal.

Kindly acknowledge the receipt of the same.

Thanking you,

Yours faithfully

For Natco Pharma Limited – Chemical Division

(Ch. Srinivasa Rao)
Sr. General Manager – EHS

Enclosed: Form-V with annexures

Copy to: Member Secretary, T.S.P.C.B., Paryavaran Bhavan, Sanathnagar,
Hyderabad.





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ENVIRONMENT STATEMENT – FORM - V

For the year 2021 – 22



Submitted By



**M/s. NATCO PHARMA LIMITED
(CHEMICAL DIVISION)**

**Mekaguda Village, Nandigama Mandal,
Ranga Reddy District, Telangana State, India**

PIN: 509 223



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PART - A



Environmental Statement 2021 – 22
Natco Pharma Limited-Chemical Division

FORM – V
(See rule 14)

Environmental Statement for the year ending 31st March, 2022

PART – A

i	Name and address of the owner / occupier of the Industry operation or process.	Mr. P.S.R.K. Prasad NATCO PHARMA LIMITED "NATCO HOUSE", Road No. 2, Banjara Hills, Hyderabad – 500 034.
ii	Industry Category	Red Category – Hazardous
iii	Production Capacity	At any given time a maximum of 15 products, 5 from Group-A, 5 from Group-B and 5 from Group-C shall be manufactured so that the total production capacity at any point of time shall not exceed 1782.67 kg/day (53.480 TPM) List of products with capacities given below.
iv	Year of establishment	1993
v	Date of the last Environmental Statement submitted	September – 2021



List of Products with capacities
(As per CFO Expansion Order: 200522472438, 21.07.2020)

Group	S. No.	Name of the Product	Capacity (TPM)	Remarks
A	1	Alendronate	3.00	Any 15 products (5 products from each group) on campaign products out of total 66 products at any part of time & R&D activity
	2	Citalopram Hydrobromide	3.00	
	3	Chloroquine Phosphate	5.10	
	4	Clozapine	3.00	
	5	Deferasirox	0.30	
	6	ErlotinibHCl	1.05	
	7	Escitalopram Oxalate	0.51	
	8	Gefitinib	1.05	
	9	Glatiramer Acetate	0.21	
	10	Ibandronate Sodium	1.05	
	11	Imatinib Mesylate	2.10	
	12	LapatinibDitosylate Monohydrate	0.51	
	13	Macitentan	0.51	
	14	OndansetronHCl Dihydrate	1.05	
	15	Sertraline HCl	3.00	
	16	Sofosbuvir	2.10	
B	17	ACDMQ	2.10	
	18	Armodafinil	0.51	
	19	Benzyloxy aniline HCl	2.10	
	20	Bosentan Monohydrate	1.05	
	21	Dimethyl Fumarate	5.10	
	22	Lansoprazole	2.10	
	23	Lanthanum Carbonate Dihydrate	2.10	
	24	L-Biopterin	0.12	
	25	Ledipasvir	0.51	
	26	Minodronic Acid Hydrate	0.51	
	27	Omeprazole	3.00	
	28	Pantoprazole Sodium Monohydrate	2.10	
	29	Pazopanib Hydrochloride	1.05	
	30	SorafenibTosylate	1.05	
	31	Sumatriptan Succinate	0.51	



Group	S. No.	Name of the Product	Capacity (TPM)	Remarks
C	32	(1S, 2S, 3R, 5S)-Pinanedilol-L-Phenylalanine-L-leucine boronate Hydrochloride (Intermediate of Bortezomib)	0.06	Any 15 products (5 products from each group) on campaign products out of total 66 products at any part of time & R&D activity
	33	5-fluoro2-oxindole (Intermediate of Sunitinib)	0.15	
	34	Ambrisentan	0.12	
	35	AmifostineTrihydrate	0.12	
	36	Anastrozole	0.12	
	37	Apixaban	0.12	
	38	Argatroban Monohydrate	0.06	
	39	BCC / NRC-2694-A	1.05	
	40	[(2S)-2-[[4-Methyl-2-[(2S)-2-[(2-morpholinoacetyl) amino]-4-phenyl-utanoyl]amino]pentanoyl] amino]-3-phenyl-propanoic acid] (Intermediate of Carfilzomib Acid)	0.06	
	41	Dasatinib Monohydrate	0.30	
	42	Entecavir Monohydrate	0.06	
	43	Ethyl-4-[5-(Bis(2-Hydroxyethyl) amino)-1-Methyl-1H-benzo[d]imidazol-2-yl]Butanoate (Intermediate of BendamustineHCl)	0.30	
	44	[N-[3-Hydroxy-1,1-bis-Hydroxymethyl-3-(4-octyl-phenyl)-propyl]-acetamide] (Intermediate of Fingolimod)	0.12	
	45	GranisetronHCl	0.12	
	46	Letrozole	0.12	
47	Liraglutide Acetate	0.01		
48	N-(2-(diethylamino)ethyl)-5-formyl-2,4-dimethyl-1H-pyrrole-3-carboxamide (Intermediate of Sunitinib Malate)	0.30		
49	Nilotinib Hydrochloride Hydrate	0.06		
50	NRC/AN/019	0.12		
51	Plerixafor	0.01		
52	Pomalidomide	0.12		
53	Ponatinib	0.30		
54	Regorafenib	0.21		
55	Rizatriptan Benzoate	0.12		

Environmental Statement 2021 – 22



Natco Pharma Limited-Chemical Division

Group	S. No.	Name of the Product	Capacity (TPM)	Remarks
C	56	SalmeterolXinafoate	0.12	Any 15 products (5 products from each group) on campaign products out of total 66 products at any part of time & R&D activity
	57	Sapropterin.2HCl	0.12	
	58	Teriflunomide	0.12	
	59	Tigecycline	0.12	
	60	1,1-Dimethylethyl(S)-4-formyl-2,2-dimethyl-3-oxazolidine-carboxylate (TRB / D-5)	0.12	
	61	Ethyl-2-bromo-2-(6-(methoxymethoxy)-7-methyl benzo [D][1,3]dioxol-4-yl) acetate (TRB / TMR)	0.12	
	62	(S)-1-Hydroxy-3-(3-hydroxy-4-methoxy-5-methylphenyl) propan-2-aminium chloride (TRB-5 / LT-VIII)	0.12	
	63	Tri HexyphenidylHCl	0.12	
	64	Zoledronic acid	0.06	
	65	Zolmitriptan	0.12	
	66	Schiff's Base	20.00	
	R&D Products		0.03	



Environmental Statement 2021 – 22
Natco Pharma Limited-Chemical Division

Manufactured Products and Quantity

S. No.	Name of the Products manufactured for the year 2021 – 22		CFO Permitted Quantity (kg/Annum)
	Product Name	Total Quantity (kg/Annum)	
01	Anastrozole	211.817	1440.000
02	Apixaban	770.690	1440.000
03	Argatroban	4.535	720.000
04	Citalopram Hydrobromide	50.000	36000.000
05	Erlotinib HCl	184.330	12600.000
06	Geftinib	142.110	12600.000
07	Glatiramer Acetate	158.140	2520.000
08	Granisetron Hydrochloride	10.630	1440.000
09	Ibandronate Sodium	130.540	12600.000
10	Imatinib Mesylate	3742.385	25200.000
11	Lansoprazole	214.500	25200.000
12	Lanthanum Carbonate Dihydrate	14252.740	25200.000
13	Lapatinib Ditosylate Monohydrate	249.810	6120.000
14	Ledipasvir	56.250	6120.000
15	Letrozole	505.829	1440.000
16	Nilotinib Hydrochloride Monohydrate	125.730	720.000
17	Ondansetron Hydrochloride	356.550	12600.000
18	Regorafenib	1.735	2520.000
19	Rizatriptan benzoate	362.700	1440.000
20	Salmeterol Xinafoate	31.168	1440.000
21	Sorafenib Tosylate	195.160	12600.000
22	Teriflunomide	13.900	1440.000
23	Tri Hexyphenidyl HCl	36.940	1440.000
24	Zoledronic acid	9.990	720.000
25	Zolmitriptan	43.450	1440.000
26	R&D Product	210.063	360.000



PART - B



Environmental Statement 2021 – 22
Natco Pharma Limited-Chemical Division

PART – B

Water and Raw Material Consumption

i. Water Consumption (m³/day):

S. No.	Description	Average water consumption for the year 2021 – 22			Consented Quantity (m ³ /day)
		Fresh Water (m ³ /day)	Recycle Water (m ³ /day)	Total (m ³ /day)	
01	Process	63.4	--	63.4	165.0
02	DM Regeneration				10.0
03	Washings				80.0
04	QC and R&D				5.0
05	Boiler	71.7	--	71.7	120.0
06	Cooling Towers	--	134.1	134.1	480.0
07	Scrubbers	9.5	--	9.5	20.0
08	Domestic	59.6	--	59.6	75.0
09	Fire Hydrant System	0.5	--	0.5	5.0
10	Gardening	83.7	--	83.7	165.0
	Total	288.4	134.1	422.5	1125.0 (Fresh water :763 + Recycled water: 362)

Environmental Statement 2021 – 22



Natco Pharma Limited-Chemical Division

S. No.	Name of the Products manufactured for the year 2021 – 22	Process water consumption per unit of product output.	
		During the previous financial year 2020 – 21	During the current financial year 2021 – 22
01	Anastrozole	2.755 KL / kg of product. Products are being manufactured on campaign basis	2.392 KL / kg of product. Products are being manufactured on campaign basis
02	Apixaban		
03	Argatroban		
04	Citalopram Hydrobromide		
05	Erlotinib HCl		
06	Gefitinib		
07	Glatiramer Acetate		
08	Granisetron Hydrochloride		
09	Ibandronate Sodium		
10	Imatinib Mesylate		
11	Lansoprazole		
12	Lanthanum Carbonate Dihydrate		
13	Lapatinib Ditosylate Monohydrate		
14	Ledipasvir		
15	Letrozole		
16	Nilotinib Hydrochloride Monohydrate		
17	Ondansetron Hydrochloride		
18	Regorafenib		
19	Rizatriptan benzoate		
20	Salmeterol Xinafoate		
21	Sorafenib Tosylate		
22	Teriflunomide		
23	Tri Hexyphenidyl HCl		
24	Zoledronic acid		
25	Zolmitriptan		
26	R & D Products		

ii. Raw Material Consumption

The industry has obtained consent for operation to manufacture 66 products in three groups A, B and C. Any given time a maximum of 15 products will be manufactured groups A, B and C. The details of raw materials consumed for the production during the year 2021-22 presented in Annexure-1.



PART - C



Environmental Statement 2021 – 22
Natco Pharma Limited-Chemical Division

PART – C

(a) Pollution Discharged to environment / per unit of out put
(Parameters as specified in the Consent issued)

Pollutant	Average quantity of pollutants discharged mass / day (Recycled)	Concentrations of pollutants in discharges mass / volume (Recycled)	Percentage of variation from prescribed standards With reasons
a) Water	Zero Liquid Discharge system		
pH	--	7.43	<p>The unit adopts Zero Liquid Discharge concept for wastewater treatment and Recycling. All the parameters are with in the acceptable limits for recycling.</p> <p>Reports enclosed as Annexure-2</p>
Total Dissolved Solids (TDS)	26.411 kgs	149.3 mg/L	
Total Suspended Solids (TSS)	0.177 kgs	1.0 mg/L	
Chemical Oxygen Demand (COD)	10.349 kgs	58.5 mg/L	
Biochemical Oxygen Demand (BOD@27°C)	1.291 kgs	7.3 mg/L	
Chlorides	9.730 kgs	55.0 mg/L	
Sulphates	1.946 kgs	11.0 mg/L	
Ammonical Nitrogen as NH ₃ -N	2.919 kgs	16.5 mg/L	
Oil & Grease	0.018 kgs	0.1 mg/L	
Hexavalent Chromium (as Cr ⁺⁶)	0.005 kgs	0.03 mg/L	
Total Chromium as Cr	0.018 kgs	0.1 mg/L	
Lead as Pb	0.018 kgs	0.1 mg/L	
Nickel as Ni	0.018 kgs	0.1 mg/L	
Zinc as Zn	0.018 kgs	0.1 mg/L	
Cyanide as CN	0.004 kgs	0.02 mg/L	
Arsenic as As	0.035 kgs	0.2 mg/L	
Mercury as Hg	0.002 kgs	0.01 mg/L	
Silica as SiO ₂	0.637 kgs	3.6 mg/L	
Total Hardness as CaCO ₃	10.066 kgs	56.9 mg/L	

Environmental Statement 2021 – 22



Natco Pharma Limited-Chemical Division

Pollutant	Average concentrations of pollutants in discharges mass / volume	Percentage of variation from prescribed standards With reasons
b) Air		
AAQ		
Particulate Matter (PM-10)- $\mu\text{g}/\text{m}^3$	52.6	All parametrs are within the permissible Limits Reports enclosed as Annexure-2
Particulate Matter (PM-2.5)- $\mu\text{g}/\text{m}^3$	21.9	
Sulphur Dioxide (SO_2)- $\mu\text{g}/\text{m}^3$	13.4	
Oxides of Nitrogen (NO_2)- $\mu\text{g}/\text{m}^3$	21.5	
Ammonia (NH_3)- $\mu\text{g}/\text{m}^3$	3.0	
Carbon Monoxide (CO)- $\mu\text{g}/\text{m}^3$	1.0	
Ozone (O_3)- $\mu\text{g}/\text{m}^3$	14.0	
Lead (pb)- $\mu\text{g}/\text{m}^3$	1.0	
Nickel (Ni)- ng/m^3	5.0	
Arsenic (As)- ng/m^3	6.0	
Benzo (a) pyrene (BaP)-particulate phase only- (ng/m^3)	1.0	
Benzene (C_6H_6)- $\mu\text{g}/\text{m}^3$	5.0	

Environmental Statement 2021 – 22



Natco Pharma Limited-Chemical Division

Pollutant	Average concentrations of pollutants in discharges mass / volume	Percentage of variation from prescribed standards With reasons
<u>Incinerator Stack Emissions</u>		
Particulate Matter (PM) mg/Nm ³	As a part of environmentally sound engineering practice, Incinerable organic wastes sendig to cement industry for coprocessing and AFRF followed by Co processing at GGEPIIL & TSDF Ramky. Hence onsite incinerator not using for disposal of incinerable hazardous wastes (Incienrator is in working codition. Can be operational at any point of time as and when required).	--
Sulphur Dioxide (SO ₂) mg/Nm ³		
Oxides of Nitrogen (NO _x) mg/Nm ³		
Carbon Monoxide (CO) mg/Nm ³		
HCl mg/Nm ³		
Total Organic Compound (TOC) mg/Nm ³		
HF mg/Nm ³		
Carbon Dioxide (CO ₂) mg/Nm ³		
<u>Boiler Stack Emissions</u>		
Particulate Matter (PM)	67.3 mg/Nm ³	Within the permissible limitss Reports enclosed as Annexure-2
Sulphur Dioxide (SO ₂)	271.6 mg/Nm ³	
Oxides of Nitrogen (NO _x)	217.6 mg/Nm ³	
<u>D.G. Sets Stack Emissions</u>		
Particulate Matter (PM)	49.0 mg/Nm ³	Within the permissible limits Reports enclosed as Annexure-2
Sulphur Dioxide (SO ₂)	113.9 mg/Nm ³	
Oxides of Nitrogen (NO _x)	139.4 mg/Nm ³	
Non Methane Hydrocarbons	1.8 mg/Nm ³	
Carbon Monoxide (CO)	43.8 mg/Nm ³	



PART - D



Environmental Statement 2021 – 22
Natco Pharma Limited-Chemical Division

PART – D
Hazardous Wastes

[As specified under Hazardous and Other Wastes (Management, Handling and Transboundary Movement) Rules, 2016 and amendments thereof]

Hazardous Waste	Total Quantity (Tons)		
	During the Previous Financial year 2020-21	During the current financial year 2021-22	Consent quantity as per CFO Order No. 200522472438, dated 21.07.2020
Generation			
<u>a) From Process</u>			
Spent Carbon	22.634	17.097	216.000
Process Organic Residue	45.543	79.524	2062.800
Distillation Residues	97.612	137.742	180.000
Inorganic & Evaporation Salts (Process & Non-Process)	924.217	1070.253	5158.800
Spent Hydrobromic Acid	9.372	18.537	428.400
Spent Succinamide	22.811	19.073	126.000
Gypsum	144.570	66.420	455.000
Spent Raney Nickel Catalyst	--	4.343	36.500
Spent Solvents	6850.779	4783.202	66600.000 KL
Recovered Spent Solvents	6271.008	3994.189	63000.000 KL
Spent Mixed Solvents	451.286	395.998	2880.000 KL
Waste Oils & Grease	2.680 KL (With moisture content)	2.830 KL (With moisture content)	10.000 KL
Rejects (Off specification / date expired / rejected raw materials / chemicals / intermediates / APIs)	0.125	7.545	72.000
Used Insulation waste	11.380	23.000	25.200
E-Waste	0.709	0.920	3.600
<u>b) From Pollution Control Facilities</u>			
ETP Sludge	188.575	212.070	1800.000



Environmental Statement 2021 – 22
Natco Pharma Limited-Chemical Division

Hazardous Waste	Total Quantity (Tons)		
	During the Previous Financial year 2020-21	During the current Financial year 2021-22	Consent quantity as per CFO Order No. 200522472438, dated 21.07.2020
Disposal			
a) From Process			
Spent carbon (Cement Industry).	10.050	--	
Spent carbon (AFRF-HWMP).	11.750	19.050	
Spent carbon (In-house WHRU).	5.000	--	
Process Organic Residue (Cement Industry)	25.870	87.313	
Process Organic Residue (AFRF-HWMP)	9.820	--	
Process Organic Residue (In-house WHRU)	2.000	--	
Distillation Residues (Cement Industry & GGEPIL-AFRF).	118.080	129.550	
Distillation Residues (AFRF-HWMP)	5.000	--	
Inorganic & Evaporation Salts (Process & Non-Process) to HWMP-TSDF	909.380	1003.680	
Inorganic Salts (Process) to GGEPIL-AFRF	--	50.622	
Spent Hydrobromic Acid (Recyclers)	6.040	21.070	
Spent Succinamide (Manufacturer)	21.006	10.680	
Gypsum (Cement Industry)	138.750	72.010	--
Spent Raney Nickel Catalyst (Recyclers)	--	4.343	
Recovered Spent Solvents (Recyclers)	3582.216	3017.895	
Recovered Spent Solvents (re-used in process)	2615.668	1065.426	
Spent Mixed Solvents (Cement Industry).	445.160	374.848	
Spent Mixed Solvents (In-house WHRU)	15.000	--	
Spent Solvents (Taken for Recovery at SRP)	6850.779	4783.202	
Waste Oils & Grease (Recycler)	3.095 KL	2.640	
Rejects (Off specification / date expired / rejected raw materials / chemicals /	124.923 kgs.	6.355	
Used Insulation waste to TSDF (HWMP-TSDF)	11.380	17.800	
E-Waste	2.310	0.970	
b) From Pollution Control Facilities			
ETP sludge (HWMP-TSDF)	297.970	145.860	
ETP sludge (GGEPIL-AFRF)	--	66.900	

Environmental Statement 2021 – 22



Natco Pharma Limited-Chemical Division

Bio-Medical waste	Total Quantity (Tons)	
	During the Previous Financial year 2020-21	During the current financial year 2021-22
Generation		
Yellow Category – MBL waste	3147.0 kgs.	2788.0 kgs
Yellow Category – Soiled Waste (Occupational Health Center waste)	67.650 kgs.	58.960 kgs
Yellow Category – Expired & Discarded Medicines (OHC)	15.250 kgs.	43.650 kgs
White Category – Needles (Occupational Health Center waste)	64.810 kgs.	52.010 kgs
Blue Category – Glassware & Sharps (Occupational Health Center waste)	107.485 kgs.	101.975 kgs
Red Category – Plastic Waste (Occupational Health Center waste)	152.155 kgs.	184.015 kgs

Bio-Medical waste	Total Quantity (Tons)	
	During the Previous Financial year 2020-21	During the current financial year 2021-22
Disposal		
Yellow Category – MBL waste	3136.000 kgs.	2805.0 kgs
Yellow Category – Soiled Waste (Occupational Health Center waste)	67.590 kgs	59.080 kgs
Yellow Category – Expired & Discarded Medicines (OHC)	15.250 kgs	43.650 kgs
White Category – Needles (Occupational Health Center waste)	64.790 kgs.	52.070 kgs
Blue Category – Glassware & Sharps (Occupational Health Center waste)	107.235 kgs.	102.315 kgs
Red Category – Plastic Waste (Occupational Health Center waste)	151.955 kgs.	184.415 kgs



PART - E



Environmental Statement 2021 – 22
Natco Pharma Limited-Chemical Division

PART – E

Solid Wastes

Source of solid waste	During the Previous Financial year 2020-21	During the current Financial year 2021-22	Consent quantity as per CFO Order No. 200522472438, dated 21.07.2020
	Quantity (Tons)		
a) From process			
Detoxified Containers / Liner drums, HDPE Carboys, Fiber drums and PP Bags	623 Nos. (1.240 Tons)	13351 Nos. (14.031 Tons)	18000 Nos.
Used Thermo Cole waste	0.530	1.570	7.200
HDPE & PP Scrap	13.135	27.380	72.000
Brown Shippers waste	--	8.310	--
Shredded Paper waste	--	1.570	--
b) Form pollution control facility	Nil		
Others	Nil		
c)	Nil	Nil	--
1) Quantity recycled or re – utilized within the unit.			
2) Sold	Nil	Nil	
3) Disposed			
Detoxified Containers / Liner drums, HDPE Carboys, Fiber drums and PP Bags	368 Nos. (0.710 Tons)	7519 Nos. (13.338 Tons)	
Used Thermo Cole waste (AFRF)	0.350	1.750	
HDPE & PP Scrap (AFRF)	8.815	31.700	
PP Bags (Used for evaporation packing)	0.380	0.890 (5930 Nos.)	
Brown Shippers waste	--	8.310	
Shredded Paper waste	--	1.570	



PART – F



PART – F

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

HAZARDOUS WASTE:

The total amount of hazardous waste generated during the year 2021-22 is 6052.770 Tons. Hazardous wastes segregated based on the characteristics of the wastes such as Spent Carbon, Distillation Residue, Process Organic Residue, Spent Mixed Solvents, ETP Sludge, Spent Hydrobromic Acid, Spent Succinamide, Gypsum, Spent Raney Nickel Catalyst, Recovered Spent Solvents, Waste Oil, Rejects, Insulation Waste, Bio-Medical Waste, E-Waste and Inorganic & Evaporation Salts.

Spent Carbon, Rejects and Process Organic Residue collected in HDPE bags from process, stored in covered shed and then disposed to cement plants for co-processing.

Distillation Residue and Spent Mixed Solvents collected in HDPE drums, stored in covered shed and then disposed to cement plants for co-processing / GGEPIL for pre-processing followed by co-processing in cement kilns.

Evaporation Salt generated from ATFD, collected in HDPE Bags, stored in covered shed, disposed to TSDf for secured landfill.

Inorganic Salts collected in HDPE bags from production blocks and ETP Sludge collected in HDPE bags from ETP (Paddle Dryer), stored in covered shed, and then disposed to GGEPIL for pre-processing.

ETP Sludge generated from effluent treatment system is collected in HDPE bags and Insulation waste collected in HDPE bags from production blocks, stored in covered shed and then disposed to HWMP (TSDf).

Spent Succinamide and Spent Raney Nickel Catalyst collected in HDPE bags, Spent Hydrobromic Acid, Recovered Spent Solvents and Waste Oil collected in drums and disposed to Authorised Recyclers.

Bio-Medical waste collected in colour coding bags and disposed to authorised CBMWDF.

E-Waste collected from IT and Maintenance and disposed to authorised recyclers.

2. SOLID WASTE (NON-HAZARDOUS):

Generation of Non-hazardous solid wastes are in the form of fly ash, packaging material, paper & paperboard waste etc. Fly ash is being disposed to brick manufacturers. Packing materials after detoxification sent to outside agencies for recycling. The Paper and paperboard waste sent to ITC Limited through Nish Elgha Technologies Pvt.Ltd authorised agency for recycling.



PART - G



PART – G

Impact of pollution abatement measures taken on conservation of natural resources and on the cost of production:

Installed 3.40 MW solar power plant for captive consumption, which in turn will reduce the grid power consumption. Hence, the proportionate quantity of GHG emissions (generated during the generation of grid power from fossil fuels) minimized.

Solar power purchase agreement made with the renewable energy generators. Achieved 35% of plant power demand meeting from renewable energy sources (from onsite solar power plant & through solar power purchase agreements).

Roof top rainwater collection system implemented and utilizing the roof top rainwater to boilers without pretreatment.

Wastewater treated in ZLD plant and recycled to reduce the freshwater consumption.

Installed High-pressure RO-2 for reduce load on MEE (Multi Effect Evaporator).

Spent sulphuric acid segregated and converted into gypsum and sold as a raw material to cement industries.

Spent catalysts segregated and sent back to manufacturers for reprocessing.

ETP sludge after dewatering (by using sludge decanter) is passed through Sludge dryer to bring down the moisture content to less than 15% there by reduces volume of sludge sent to Authorized Pre-processing facility and the corresponding transportation related GHG emissions will be reduced.



PART - H



PART – H

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

“Eco Forest” a new afforestation project launched by Natco – Mekaguda unit using “Miyawaki concept” invented and named after Japanese botanist Akira Miyawaki a unique technique to grow multi-layered dense forests with native species.

“Eco Forest is developed in an area of about 3000 sq.mts area with 7600 plants of 45 varieties of native species within the premises and another 500 sq.mts area with 1800 plants with 45 varieties of native species along the south side boundary towards the village and 1500 plants newly planted in 2021-22 inside the plant at greenbelt area.

Under this concept, number of native species planted in this area close to each other (at 60 cm distance between plants). The plant growth is 10 times faster and the resulting plantation is 30 times denser than usual. This will lead to co-existence of plants and in fact each plant draws from the other vital nutrients and they grow to become strong and healthy and becomes maintenance-free after the first two years. A substantial decrease in noise and dust control and more Carbon-dioxide absorption as compared to conventional forest.



Photographs of the Eco-Forest (24months old)





Newly developed Greenbelt area in 2021-22







PART - I



PART – I

The proposed projects for improving the quality of the Environment:

Proposed to install water efficient fixtures low flow aerated type at all washing areas (toilets, canteen & employees change rooms) to conserve water.

Proposed to reduce landfill waste quantity by disposing the wastes to Pre-processing facilities instead of sending to secured landfill (TSDF). Working with Authroized pre-processing facilities to utilize the evaporation salts for pre-proessing followed by co-processing.

Continue to dispose the dried ETP sludge to authroized pre-proessig facilities for pre-proessing followed by co-processing.

Working with recyclers / pre-processors to utilize the insulation waste.

Working with various agencies / technologies to improve the HPRO recovery rate.
