KRIBHCO Cooperative and beyond...
कृषक भारती कोआपरेटिव लिमिटेड
KRISHAK BHARATI COOPERATIVE LIMITED

BY REGD. POST A.D.

Ref No.: HP/10/Env.Cell/Env. Statement/2022-2023

Dated: 10-05-2023

To
The Member Secretary
Gujarat Pollution Control Board.
Sector 10-A
Paryavaran Bhavan
Gandhinagar-382010

Sub.: Environment Statement for the financial year ending 31st March 2023.

Dear Sir,

Herewith, please find enclosed Environment Statement (Form V) for the financial year 2022-2023, as required under the provision of Rule-14 of the Environment (Protection) Amendment Rules, 1993 of the Environment (Protection) Act,1986.

Thanking you

For Krishak Bbharati Cooperative Limited

S. K. MOHAPATRA
Joint General Manager (Technical)
Krishak Bharati Cooperative Limited
PO.: KRIBHCO NAGAR,
SURAT-394 515. (Gujarat)

CC: GPCB-RO-Surat

Encl: (i) Form-V

(ii) Annexures

ENVIRONMENTAL STATEMENT FORM –V

(See rule 14)

Environmental Statement for the financial year ending with 31st March 2023

PART-A

M/s. KRISHAK BHARATI COOPERATIVE LIMITED-SURAT

(i) Name and address of the owner/ Occupier of the Industry, operation or process : S. K. MOHAPATRA
Krishak Bharati Cooperative Limited
P.O. Kribhconagar
Surat-394515

(ii) Industry category : R52- Fertilizer(basic)(excluding formulation)
Primary- (STC Code)
Secondary- (STC Code)

(iii) Production Capacity

Urea	:	6650MTPD
Ammonia	:	4000 MTPD
Bio-Fertilizer	:	2500 KLPY
Argon	:	71.3 Lacs Nm^3/Year

Operation of jetty : Operation of jetty for handling of bulk cargo of Fertilizers or De-oiled cake or Gypsum or Slag or Agri- products or Sugar or Food grains or MOP or Clinker or Rock Phosphate or Cement bags or Construction material or Lime stone or Iron Ore or Bentonite or Aggregate Stone @ 7000 MT/Day and 1.4 Million MT/Year.

(iv) Year of Establishment : November -1980

(v) Last Environment Statement : 29/04/2022

PART-B

WATER AND RAW MATERIAL CONSUMPTION

(i) Water Consumption m^3/d (Annual Average 2022-2023)

Process	:	5191 M^3/Day
Cooling	:	24288 M^3/Day
Domestic	:	5797 M^3/Day (Includes water supplied to adopted Villages)

Name of Products	Process water consumption per unit of Products	
	During the previous Financial Year	During the current Financial Year
1. Urea 2. Bio-Fertilizer * Total Water consumptions includes Cooling tower makeup and Process Water.	4.62 M^3/Ton of Urea* 2.169 KL/KL of Product	4.84 M^3/Ton of Urea* 2.444 KL/KL of Product

(ii) Raw Material Consumption

Name of raw material	Name of Products	Consumption of raw material per unit of out put	
		During the previous Financial Year	During the current Financial Year
1. Natural Gas	UREA	643.055 SM^3/MT of Urea	642.051 SM^3/MT of Urea

*Industry may use codes if disclosing details of raw material would violate contractual obligations, otherwise all industries have to name the raw materials used.

PART-C

Pollution discharges to environment/unit of output

(Parameters as specified in the consent issued)

(i) Pollution	Quality of Pollutants Discharged (Mass/Day)	Concentration of Pollutants in discharges (Mass/volume)	Percentage of variation from prescribed standards with reasons.
(a) Water	**--- Refer Annexure -I ---**		No violation form prescribed standards. We are complying with all the prescribed standards.
(b) Air	**--- Refer Annexure -II ---**		

PART-D

(HAZARDOUS WASTES)

(As specified under Hazardous Wastes (Management and Handling) Rules,1989)

Hazardous Wastes	Total Quantity (Kg)	
	During the previous financial year	During the current financial year
(a) From process	**--- Refer Annexure –III ---**	
(b) From pollution control Facilities	**NOT APPLICABLE**	**NOT APPLICABLE**

PART-E

SOLID WASTES

	TOTAL QUANTITY (Kg)	
	During the previous financial year	During the current financial year
(a) From Process (water Pre-treatment Plant) **Annexure-IV**	**230.72 MT**	**237.29 MT**
(b) From Pollution control facility	**NOT APPLICABLE**	**NOT APPLICABLE**
(c) (1) Quantity recycled or reutilized within the unit. (2) Sold (3) Disposed	**NOT APPLICABLE**	**NOT APPLICABLE**

PART-F

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

Refer Annexure-III & IV

PART-G

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

(1) During the financial year 2022-2023, society had re-used 75 M^3/Day Cooling Tower blow down water for Horticulture purpose and 1757 M^3/Day of Tertiary treated sewage water for cooling tower Make up, which has resulted in the saving of approx. Rs. 342.37 Lacs.

(2) During the financial year 2022-2023, KRIBHCO has sent 1751 M^3/Day (Annual average) treated industrial effluent to M/s. Adani Hazira Port Private Limited (AHPPL)-Hazira, for the purpose of spraying on coal and Industrial use.

(3) During the financial year 2022-23, KRIBHCO has utilized 169 M^3/Day (Annual average)

treated industrial effluent in KRIBHCO-Jetty cargo storage area for the purpose of spraying on coal and Industrial use.

PART-H

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

KRIBHCO has implemented rain water harvesting system at plant premises and KRIBHCO Township. In the year 2022-23 and approximately **1,12,398 m^3** water was conserved in the year 2022-23. The cost of natural water resources conserved by harvesting rain water in financial year 2022-23 is approximately **Rs. 42,67,638/-**

PART- I

Any other particulars for improving the quality of environment.

1. **KRIBHCO has planted 636 Nos. trees in KRIBHCO plant premises and in township during the financial year 2022-2023.**
2. **KRIBHCO has implemented the Integrated Management System (IMS) in-line with ISO: 9001:2015, ISO: 14001:2015 & ISO: 45001:2018. Regular internal and external audits are being carried out to check the adequacy and efficacy of the system. The certificate of approval issued by M/s IRQS are valid up to 04.03.2025.**
3. **KRIBHCO has installed online Continuous Monitoring System for Effluent and Emissions, as per directives of CPCB. All the data are linked to GPCB & CPCB servers.**
4. **Society has achieved Zero Liquid Discharge (ZLD) since 2003. There is no overflow from the final outlet of discharge point of Balancing pond. IP camera with PAN, TILT, Zoom, 5x focal length & 20x optical zoom with night vision capability and flow meters in channel/drains have been provided as per CPCB Guideline.**

Date: 21.04.2023

Prepared By:

Krishak Bharati Co-operative Ltd.

S. K. MOHAPATRA
Joint General Manager (Technical)
Krishak Bharati Cooperative Limited
PO.: KRIBHCO NAGAR,
SURAT-394 515. (Gujarat)

(Authorized signatory)

Annexure-I

QUALITY OF THE LIQUID EFFLUENT

FOR THE MONTH APRIL 2022 TO MARCH 2023

CONSENT ORDER No. 98272 Dated.29.12.2018

Sr. No.	Particulars	Qualitywise (mg/l)	
		GPCB Limit	Actual Result *
1	pH	6.5 - 8.5	6.70 - 8.00
2	Suspended Solids	100	02.0 - 38.0
3	Oil and Grease	10	2.0 - 7.0
4	Total Dissolved Solids	2100	630 - 1996
5	Phenolic Compounds	1	NT
6	Sulphides	0.5	NT
7	Ammonical Nitrogen	50	0.32 - 40.0
8	Total Chromium	1	NT
9	Hexavalent Chromium	0.1	NT
10	BOD(3 days 27 0C)	30	2.0 - 7.0
11	COD	100	06.0 - 40.0
12	Chlorides	600	140 - 380
13	Sulphates	1000	126 - 391
14	Temperarure	40	25 - 31
15	Colour (Pt.Co.Scal)	100	3.0 -12.0
16	Copper Total as Cu	1	NT
17	Iron Total as Fe	1	0.36 - 0.68
18	Zinc as Zn	1	0.28 - 1.30
19	Phosphate as P	5	1.00 - 2.40

*** There is no overflow from the final outlet of balancing pond i.e Zero Liquid Discharge (ZLD) since 2003. IP camera with PAN, TILT, Zoom, 5x focal length with night vision capability and flow meters has been provided at final effluent discharge point as per CPCB guidelines.**

For KRISHAK BHARATI COOPERATIVE LIMITED

Authorised Signatory.

Annexure-II

STACK EMISSION QUALITY

FOR THE MONTH APRIL 2022 TO MARCH 2023

CONSENT ORDER No. 98272 Dated.29.12.2018

Stack	Parameter	Units	Annual Average value	Emission in Kg/day
Prilling Tower -1	PM	mg/Nm^3	27.88	726
	Ammonia	mg/Nm^3	27.96	728
Prilling Tower -2	PM	mg/Nm^3	27.77	724
	Ammonia	mg/Nm^3	28.27	737
Primary Reformer- 1	CO	ppm	2.42	21
	SO_2	ppm	< 5	< 101
	NO_X	mg/Nm^3 at 3 % O_2	130.71	1008
Primary Reformer- 2	CO	ppm	1.82	16
	SO_2	ppm	< 5	< 101
	NO_X	mg/Nm^3 at 3 % O_2	134.73	1039
Gas Turbine	CO	ppm	7.61	88
	SO_2	ppm	< 5	< 133
	NO_X	ppm	13.7	261
Boiler Chimney*	CO	ppm	3.33	3
	SO_2	ppm	< 5	< 9
	NO_X	ppm	45	58

*Boilers are in Standby arrangement during the year 2022-23
boiler was operated and monitored on 12.04.2022, 27.04.2022 & 27.03.2023

For KRISHAK BHARATI COOPERATIVE LIMITED

ANNEXURE-III

HAZARDOUS WASTE MANAGEMENT

(i) Spent Oil:

KRIBHCO is using different types of lubricant oil in different rotating equipment. As and when the oil is changed, the spent oil is stored in steel drums and kept in the custody of Stores department at designated Hazardous Waste storage area and disposed of to the GPCB registered recycler as per norms laid down by GPCB/CPCB.

(1) During the financial year 2021 – 2022, total 37.460 MT of Spent Oil was disposed of to M/s. Reliance Barrel Supply co. Narol Ahmedabad-382405.

(2) During the financial year 2022 – 2023, Disposal of spent oil = 0.000 MT.

(ii) Spent Catalyst:

Different types of catalyst are used in KRIBHCO plants. List of various type of catalyst with quantity, expected life and specification are placed below.

As and when catalyst is changed, the spent catalyst is stored in steel drums in the custody of store department at designated Hazardous waste storage area and disposed of to the GPCB registered re-processors/TSDF as per norms laid down by GPCB/CPCB.

(1) During the financial year 2021 – 2022, Disposal of spent catalyst = 0.000 MT.

(2) During the financial year 2022 – 2023, Disposal of spent catalyst = 268.905 MT

i) **total 143.735 MT** of Spent Catalyst was disposed of to M/s. Dynamic Metals And Alloys LLP, Bhavpur - Himatnagar.

ii) **total 62.295 MT** of Spent Catalyst was disposed of to M/s. Rubamin Private Limited, Vadodara.

iii) **total 62.875 MT** of Spent Catalyst was disposed of to M/s. Uttam Chemicals, – Tarapur, Dist-Palghar, Maharashtra.

(iii) Spent Hydrochloric Acid:

KRIBHCO has applied for SOP preparation under Rule-9 of Hazardous and Other waste (management & transboundary Movement) Rules, 2016; accordingly, the trial run has been carried out for utilization of spent HCL in spent resin regeneration at KRIBHCO DM Plant from 16.06.2022 to 18.06.2022 in the presence of officials of CPCB, GPCB, GEMI and NABL accredited consultant. **23.990 MT of spent HCl** was procured and same has been utilized in regeneration of spent cation exchange resins during the trial run.

DETAILS OF EXPECTED LIFE AND SPECIFICATION CATALYST

Sr. No.	Catalyst Name	Quantity(m^3)	Catalyst Life
1.	Cobalt Molybdenum Catalyst	12.04 x 2 x 2	Expected Life 4 years
2.	Zinc Oxide Base Catalyst	12.04 x 5 x 2	Expected Life 4 years
3.	Primary Reformer (Nickel Base Catalyst)	29.50 x 2	Expected Life 4 – 6 years
4.	Secondary Reformer (Nickel Base Catalyst)	36.00 x 2	Expected Life 4 years
5.	HTS Catalyst	70.00 x 2	Expected Life 4 years
6.	LT Guard Catalyst	22.65 x 2	Expected Life 2 years
7.	LTS Catalyst	70.00 x 2	Expected Life 8 years
8.	Methanator Catalyst	60.60 x 2	Expected Life 8 years

Sr. No.	Catalyst Name	CoO	Al_2O_3 + Cao	MoO_3	ZnO	NiO	NiO_2	Cr_2O_3	Fe_2O_3	CuO	FeO	K_2O
1	Cobalt Molybdenum Catalyst	3 - 4	Balance	9 - 11	--	--	--	--	--	--	--	--
2	Zinc Oxide Base Catalyst	--	Balance	--	>86	--	--	--	--	--	--	--
3	Primary Reformer Nickel Base Catalyst											
	(a) Top Bed	--	Balance	--	--	>17	--	--	--	--	--	1-2.2
	(b) Bottom Bed	--	Balance	--	--	>15	--	--	--	--	--	--
4	Secondary Reformer Nickel	--	Balance	--	--	>6	--	--	--	--	--	--
5	HTS Catalyst	--	Balance	--	--	--	--	8.0-9.0	85 - 90	3.0-5.0	--	--
6	LT Guard Catalyst	--	Balance	--	47–50	--	--	--	--	40 – 42	--	--
7	LTS Catalyst	--	Balance	--	47–50	--	--	--	--	40 – 42	--	--
8	Methanator Catalyst	--	Balance	--		--	32	--	--	--	--	--

For KRISHAK BHARATI COOPERATIVE LIMITED

ANNEXURE-IV

SOLIDWASTE MANAGEMENT

Pre-treatment Plant Sludge:

Raw water is treated in pre-treatment plant and alum is used as coagulant. The sludge generated in this plant mainly contains hydroxide of aluminum, salts of magnesium, silt, and clay and dust particles. This sludge is pumped to pre-treatment plant sludge settling pond where suspended particles and sludge settling down and clean water overflow to estuary via balancing pond. Analysis of this sludge is as under:

Physical Characteristics:

1.	Sp. Gravity:	1.01 – 1.015
2.	Percentage Solids:	0.5 - 1.0 %

Chemical Characteristics:

Sr.	Parameters	Results on Dry basis
1.	Loss on Ignition	20-25 % w/w
2.	Acid Insoluble	50-60 % w/w
3.	R_2O_3 (Mainly aluminum oxide)	20-25 % w/w
4.	CaO	1-3 % w/w
5.	MgO	0.5-1.0 % w/w

- During the financial year 2021 – 2022, total **230.72 MT** pre-treatment plant sludge was generated.
- During the financial year 2022 – 2023, total **237.29 MT** pre-treatment plant sludge was generated.

For Krishak Bharati Cooperative limited

Authorised Signatory