ENVIRONMENTAL
STATEMENT

FORM V

FOR THE FINANCIAL YEAR ENDING

31st MARCH 2018

SUBMITTED BY

SHREE RENUKA SUGARS LTD. UNIT I
MUNOLI, SOUNDATTI
BELGAVI

Email-plant@renukasugars.com

ENVIRONMENTAL STATEMENT FORM-V

(See rule 14)

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR
ENDING WITH 31st MARCH 2018

PART – A

01	Name and address of the owner/ occupier of the industry operation or process.	Abhaykumar S Khot General Manager (Works) Shree Renuka Sugars Ltd, Unit-I Munoli Village Tq: Soundatti, Dist : BELAGAVI-*591117*
02	Industry category Primary (STC Code)Secondary(SIC Code)	Sugar Co-generation Distillery Refinery
03	Production capacity – Units	Sugar unit : 7500 TCD Co-gen unit :35.5 MW Distillery : 120 KLD Raw Sugar refinery :1200 TPD
04	Year of establishment	Distillery unit : 2002 Sugar Unit :1999 Co-gen unit : 2000
05	Date of the last environmental statement submitted	05 September 2017

PART – B (I)

WATER AND RAW MATERIAL CONSUMPTION

(Sugar unit & Co-generation Unit)

WATER CONSUMPTION (CUM/DAY)

Sl No	Operation	During the Previous Financial Year 2016-17	During the Current Financial Year 2017-18
01	Process	239 Recovered from cane	240 Recovered from cane
02	Cooling	663 Recovered from cane	648 Recovered from cane
03	In Boiler	352 Recovered from cane	336 Recovered from cane
04	Domestic	85	96

PRODUCTS

Sl No	Name of Product	Process Water Consumption per product output (Ltrs/kg Sugar Produced)	
		During the Previous Financial Year 2016-17	During the Current Financial Year 2017-18
01	Sugar	0.26 (Reuse water)	0.26(Reuse water)

I) . RAW MATERIAL CONSUMPTION AND CHEMICAL CONSUMPTION

Sl No	Raw Material	Product	Consumption of Raw Material Per Unit of Output (Kgs/Qtl of Sugar Produced)	
			2016-2017	2017-18
01	Cane Crushed	Cane Sugar	843.94	892.68
	Raw Sugar Melted		Nil	45153.740 MT
02	Lime		0.860	0.86
03	O.P. Acid		0.087	0.0950
04	Caustic Soda		0.041	0.0414
05	Sulphamic acid		0.0025	0.0010
06	Anti Scalant		0.005	0.0040
07	Magnofloc 7991		0.008	0.0059
'08	MagnoflocLT-27		'0.002	0.0023
.B	By-Product	Kgs/Qtl of Sugar Produced		
1	Bagasse	239.42	252.30	
2	Press mud	27.96	28.83	
3	Molasses	36.45	38.71	

1. NOTE: - Sugar produced during the financial year 2017-18 from Cane is 940490 MT
2. This year sugar plant is operated only 156 days.

PART – B (II)

WATER AND RAW MATERIAL CONSUMPTION

(Co-generation Unit)
ii). Products

Sl No	Name of Product	Process Water Consumption per product output (Ltrs/unit of Power Produced)	
		During the Previous Financial Year 2016-17	During the Current Financial Year 2017-18
01	Power	0.48	0.33

iii A). Raw material consumption:-

Sl No	Raw Material	Product	Consumption of Raw Material Per Unit of Output (Grams/unit of Power Produced)	
			2016-2017	2017-18
1	Bagasse	Power	4.09 kg/unit	3.45 kg/unit
2	Lime		-	-
3	Ferric Chloride/Allum		-	-
4	Polymer		0.0094	0.0062
5	Hydrochloric acid		1.48	2.20
6	Caustic soda		0.29	0.46
7	Sodium Hypo chloride		0.054	0.055
8	RO anti scalent		-	-
9	Sodium meta by sulphate		-	-
B	Solid waste	Kgs/unit of power Produced		
1	Ash	0.06	0.073	

NOTE: - Power produced during the financial year 2017-18 is 78684800 units .

PART – B (III)

WATER AND RAW MATERIAL CONSUMPTION

(Distillery unit)

I .Water consumption (Cum/day)

Sl No	Operation	During the Previous Financial Year 2016-17	During the Current Financial Year 2017-18
01	Process	228 (497 reuse)	240 (520) reuse water)
02	Cooling tower	500 (Reuse)	510 reuse water

ii Products

Sl No	Name of Product	Process Water Consumption per product output (Ltrs/liters Ethanol Produced)	
		During the Previous Financial Year 2016-17	During the Current Financial Year 2017-18
01	Alcohol	2.16	2.58

iii A) Raw material consumption:

Sl No	Raw Material	Product	Consumption of Raw Material Per Consumption Raw material Unit of Output (Kgs/KL Ethanol produced)	
			2016-2017	2017-18
011	Molasses	Alcohol	3.86 MT/KL	3.89 MT/KL
02	Urea		0.62	0.40
03	DAP		0.15	0.16
04	TRO		1.1	1.21
05	Sulfuric acid		-	-
06	Enzyme		-	0.001
B	Effluent	KL/KL of Ethanol Produced		
1	Spent wash	2.93	2.8	

NOTE:- Alcohol produced during the financial year 2017-18 is- 19151.84 KL

PART – C (I)

Pollution discharged to environment/unit of output

(Parameter as specified in the consent issued)

(Sugar, Distillery and Co-generation Unit)

Sr No	Pollutants	Quantity Mass/day	Concentration Discharged (Mass/Volume)	Percentage of Variation prescribed standard with reasons
1	Waste water	230 cum/day	22.31 Kg/day	Less than stipulated
2	Air Pollution (Flue gas - cum/hr)	Stack-1 - 474041 Stack -2- 192633	63.28 Kg/hr 24.07 kg/hr	Less than stipulated Less than stipulated
I	Waste water (Spent wash)	306 cum/day	Spent wash is used along with press mud from sugar factory for making aerobic compost 100% by windrow method.	

PART –D

HAZARDOUS WASTES

(as specified under Hazardous Wastes
(Management and Handling Rules, 2016)

(Sugar unit, Co-generation Unit and Distillery units)

Sl No	Hazardous Waste	Total Quantity (Tones)	
		During the Previous Financial Year 2016-17	During the Current Financial Year 2017-18
01	From Process	0.36	0.35
2	From Pollution Control Facilities	--	--

Note:
Used oil is stored in closed barrels and used as a lubricant for sprocket, chain, door shutters etc..

PART – E
SOLID WASTES
(Sugar, Co-generation and Distillery Units)

Sl No	Solid Waste	Total Quantity in Tones	
		During the Previous Financial Year 2016-17	During the current Financial Year2017-18
01	From Process (By-products) a) Bagasse b) Press mud	 181005 21139	 265817 30369
02	From Pollution Control Facilities a)Ash b)Biological Sludge c)Oil and Grease d)Yeast Sludge e)Spent wash	 3287 144(30%) – 880 72869.0	 5784.756 150 (30%) -- 900 54304.0
3	**1.Quantity recycled or re utilized within the unit**		
	a) Bagasse used as Fuel	1815005	265817
	b) Press mud is used in Composting with spent wash	21139	30369
	c) Spent wash is used to make aerobic compost windrow method	72869.00	54304
	d) Biological Sludge used in Bio-compost	144	150
	e) Oil & Grease Burnt with bagasse in Boiler	--	---
	f) Yeast sludge used in Composting	880	900
	2) Sold Compost	39922.84	**39394.37**

PART – F

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

By-Products (Solids): Characteristics of Bagasse and press mud

Sl No	Parameter	Bagasse	Press mud
01	pH	7.3-7.4	6.1-7.3
02	Nitrogen %	0.01-.04	1.12-1.4
03	Phosphorous %	0.2-0.30	2 - 2.20
04	Potassium %	0.05-0.08	0.56-0.82
05	Organic Carbon	35-43	32-42

Byproducts:

Bagasse is used as fuel in Boiler and Press mud utilized at distillery ETP for making Compost

NOTE: The general characteristics are shown and specific characterization is not carried for particular industry.

ETP Untreated and Treated sample Analysis Report

Date of Sampling:05.02.2018

Sr. No.	Parameters	Treated
1	Colour & Odour	Colourless & Odourless
2	pH	7.19
3	BOD in mg/l	30
4	Total Suspended Solids	30
5	Oil and Grease	BDL

Note: All Parameters in mg/l except pH

STACK -I MONITRONIG REPOR
Date of Stack Monitoring:05.02.2018

Sr. No.	Parameters	Results
1	Stack diameter (m)	4.4
2	Fuel used	Bagasse
3	Flue gas temp.(deg.cel.)	155
4	Flue gas velocity (m/s)	8.22
5	SPM (mg/Nm3)	119.41
6	Nox (µg/Nm3)	20.59
7	SO2 (µg/Nm3)	11.13

- SRSL Munoli

STACK -II, MONITRONIG REPORTs

Date of Stack Monitoring: 05.02.2018

Sr. No.	Parameters	Results
1	Stack diameter (m)	3
2	Fuel used	Bagasse
3	Flue gas temp.(deg.cel.)	132
4	Flue gas velocity (m/s)	7.43
5	SPM (mg/Nm3)	128.14
	Nox (µg/Nm3)	21.76
7	SO2 (µg/Nm3)	11.78

Compost Sample Analysis Report

Date of Sampling: 05.02.2018

Sr.No.	Parameters	Results
1	Colour and Odour	DARK & Earthy smell
2	Organic carbon %	24.23
3	Mineralizable Nitrogen as N*	2.21
4	Available phosphorous as P*	0.40
5	Available potassium as K*	3.49
6	Moisture %	32.59
7	Carbon : Nitrogen ratio	10.29

PART – G

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

1. The effluent after treatment is Disposed for gardening and Green belt development.

2.Spent wash is used for making Aerobic Compost by windrow method and humus rich compost is used as manure to cane growers.

3.Green Belt plantation: In this year Total 500 trees are planted and plantation activities being continued and total 23750 trees are planted.

- SRSL Munoli

PART – H

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

For reuse and recycle of sugar excess condensate, spent lees and process condensate the same is treated in condensate processing unit separately. This helps in minimizing the fresh water consumption.

For Reduction of spent wash at source the Falling Film Evaporation System is installed.
To study the long term effect of compost on soil and crop the project work is collaboration with University of Agricultural Sciences Dharwad
completed and the project concludes that composting of concentrated spent wash (30 brix) and press mud can be successfully carried out in 60 days. There is no any phyto -toxic effect on germination of seeds due to use of compost . The use of compost helps in increase of crop yield by 15% with simultaneous decrease in application of chemical fertilizers by 20%.

PART – I

Any other particulars improving the quality of environment.

Please refer to "Environmental Statement in Brief"

ENVIRONMENT STATEMENT

1. Units of Effluent Treatment Plant:

Screen Chamber, Collection tank. Equalization tank, I-stage Aeration tank,Primary clarrifier,II-stage Aeration tank, Secondary clarifier, Tertiary treatment and polishing pond

2. Equipments and Machinery for Compost yard:

One Aerotiller, Two L& T Machines cum Loader Machine,one tractor Loader Three Nos.compost sieving Machines and spent wash spraying system

Q.1 Whether waste water Quantity measurement are made?
Ans: Yes, Flow meter installed.

Q.2 Whether Treated effluent used for irrigation?
Ans: Yes for gardening and green belt development.
Q .3 Whether untreated and treated effluent analyzed regularly?
Ans: Yes, Results are enclosed.
Q.4 Whether Stack Monitoring arrangements have been made? And is so whether monitoring is done as per consent condition?
Ans: Yes, results are enclosed.
Q. 5 How many trees are planted in the factory premises?
Ans: About 23250 trees are planted.

Q. 6 What is the capital investment of pollution control measure since the inspection of the plant and mention the details and maintenance cost?
Ans: Capital Investment: 1700 Laks.
Operation and maintenance: 227.21 Laks.
Q7.Whether the Environmental management cell is established in Industry?

Ans: Officer Environment is appointed for the Environmental Management and one ETP Chemist for ETP unit.

Officer(Environment) Sr.Manager(P) General Manager (Works)