ENVIRONMENTAL STATEMENT FOR THE SEASON 2020-21

M/s. Jamkhandi Sugars Ltd., Unit II

Post: Nad K D, Ta: Indi,
Dist: Vijayapur – 586217

1.0 Environmental Statement - An Overview

Like financial auditing which is conducted every year to have an accountability of the financial inflows and outflows, profit etc., environmental statement is a new concept, which would give the accountability of the issues related to the environment. This would help in comparing the data gathered together in the subsequent years of raw material consumption and water consumption and this would help in reducing the same to the best possible extent.

Environmental statement is an exercise of self - assessment to minimize the generation of wastes and pollution potential.

Environmental statement is a technique being introduced for integrating the interest of the industry and the environment, so that these could be mutually supportive. This technique is basically a part of industries internal procedures in meeting their responsibilities towards a better environment. Also the policy statement for abatement of pollution by the Government of India provides for submission of environment statement by all concerned industries, which would subsequently evolve into an environmental statement.

1.1. Objectives

The environmental statement helps in pollution control, improved production safety and health and conservation of natural resources and hence its overall objectives can be stated as achievement of sustainable development.

1.1.1. The Objectives of an Environmental Statement in an Industry are:

A. To determine the mass balance of various materials used and the performance of various process equipment so as to identify usage of materials in excess than required. To review the conversion efficiency of process equipment and accordingly fix up norms for equipment/operation performance and minimization of wastes.

a) To identify the areas of water usage and wastewater generation and to determine the characteristics of wastewater.

b) To determine the solid wastes and hazardous wastes generated, their sources, quantities and characteristics.

B. To determine the possibility of wastes minimization, recovery and re-cycling of wastes.

C. To determine the performance of the existing waste treatment/control system so as to modify or install additional or alternative control equipment accordingly.

1.1.2. The submission of an Environmental Statement is applicable to the following:

a) Those who require consent under Water (Prevention and Control of Pollution), Act, 1974.

b) Those who require consent under Air (Prevention and Control of Pollution), Act, 1981.

c) Those who require authorization under Hazardous Wastes (Management and Handling) Rules, 1989.

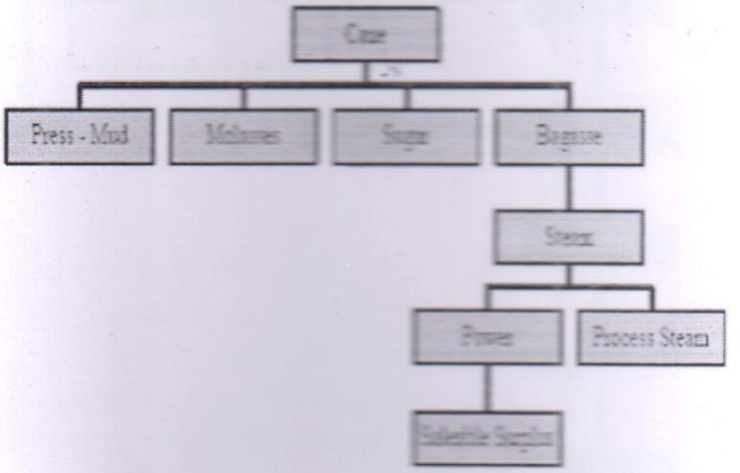
2.0. General Information

Name of the Industry	**M/s. Jamkhandi Sugars ltd .,Unit II**
Registered office Address	**Jamkhandi Sugars Ltd** **At:Hirepadasangi, Post: Nagnur,** **Tal: Jamkhandi Dist: Bagalkot -587301**
Factory Address	**M/s Jamkhandi Sugars Ltd., Unit II** **Post: Nad K D, Tal: Indi,** **Dist: - Vijayapura ,586217**
Name, Designation and Address of the contact	**Mr G.Madhav Raju, Chief Executive Officer**
Person regarding pollution	**Sugar plant** **Size: Large Category: Red**
Type of Industry	**3500 TCD sugar plant and 27 MW co gen**
Consent Order	**AW-301628 Valid upto:30/06/2021 dated:14/12/2016** **PCB ID:10535**

JAMKHANDI SUGARS LTD. UNIT-II
NAD K.D.

3.0. PROCESS FLOW DIAGRAM

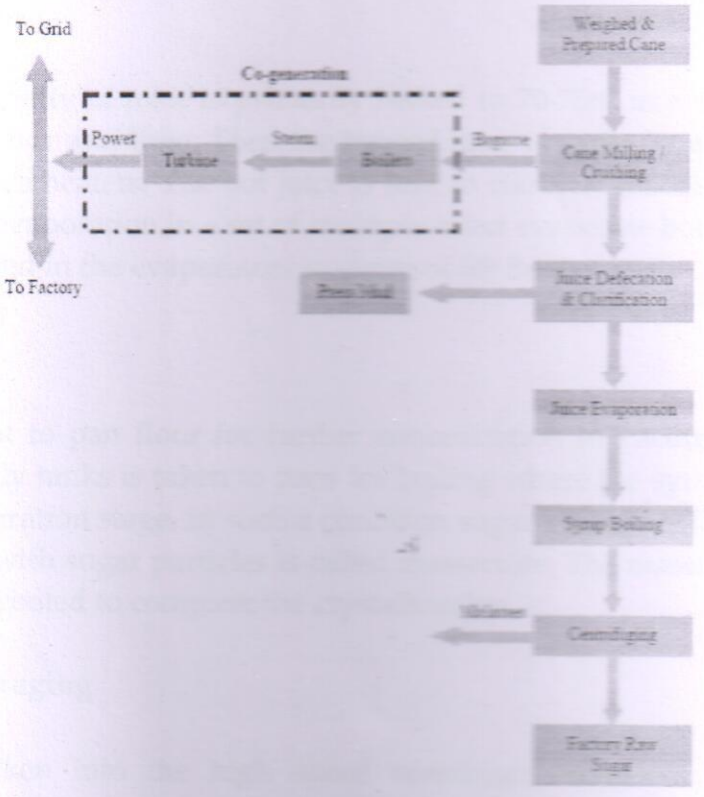
Product, Production Capacity & Product Mix



Product mix

Expansion Product Mix

Sl.No	Product	Quantity
1	Sugar	3500 TCD
2	Power	27MW



Generic flow diagram of integrated sugar complex

Sugar manufacturing process

Sugar cane is the raw material for manufacture of sugar. Juice is extracted from the sugar cane, which is then processed to recover sugar. Bagasse, which is the left out fibre material after extraction of juice from sugar cane, is used as fuel in boiler to produce steam. Steam is used for generation of electric power and exhaust steam is used for evaporation of water in the juice.

The flow diagram of sugar manufacturing process is given in figure below. A brief description of the process is given below.

Crushing of Sugar cane

Sugar cane is harvested and dresses in the fields and then supplied to factories through lorries, tractor-trailers or bullock carts. Crushing takes place mainly in two stages; first preparation and then milling. Preparation is done in leveller, cutter and fibrizer. The prepared cane is then crushed by passing through mills. Hot water is added in the course of crushing as imbibitions water for better extraction of juice from sugar cane. After crushing, the bagasse is sent to boiler as fuel and juice is sent for purification & recovery of sugar.

Juice Clarification

The weighed quantity of juice is primarily heated to 70-75°C in juice heaters and then treated with sulphur and lime. Then the treated juice is again heated to 100- 102° C in another set of juice heaters. The hot juice is sent to clarifier. Clarified juice is decanted out and sent for evaporation in a set of multiple effect evaporate bodies. The juice of 15° Brix is concentrated in the evaporators to syrup of 60° Brix.

Crystallization

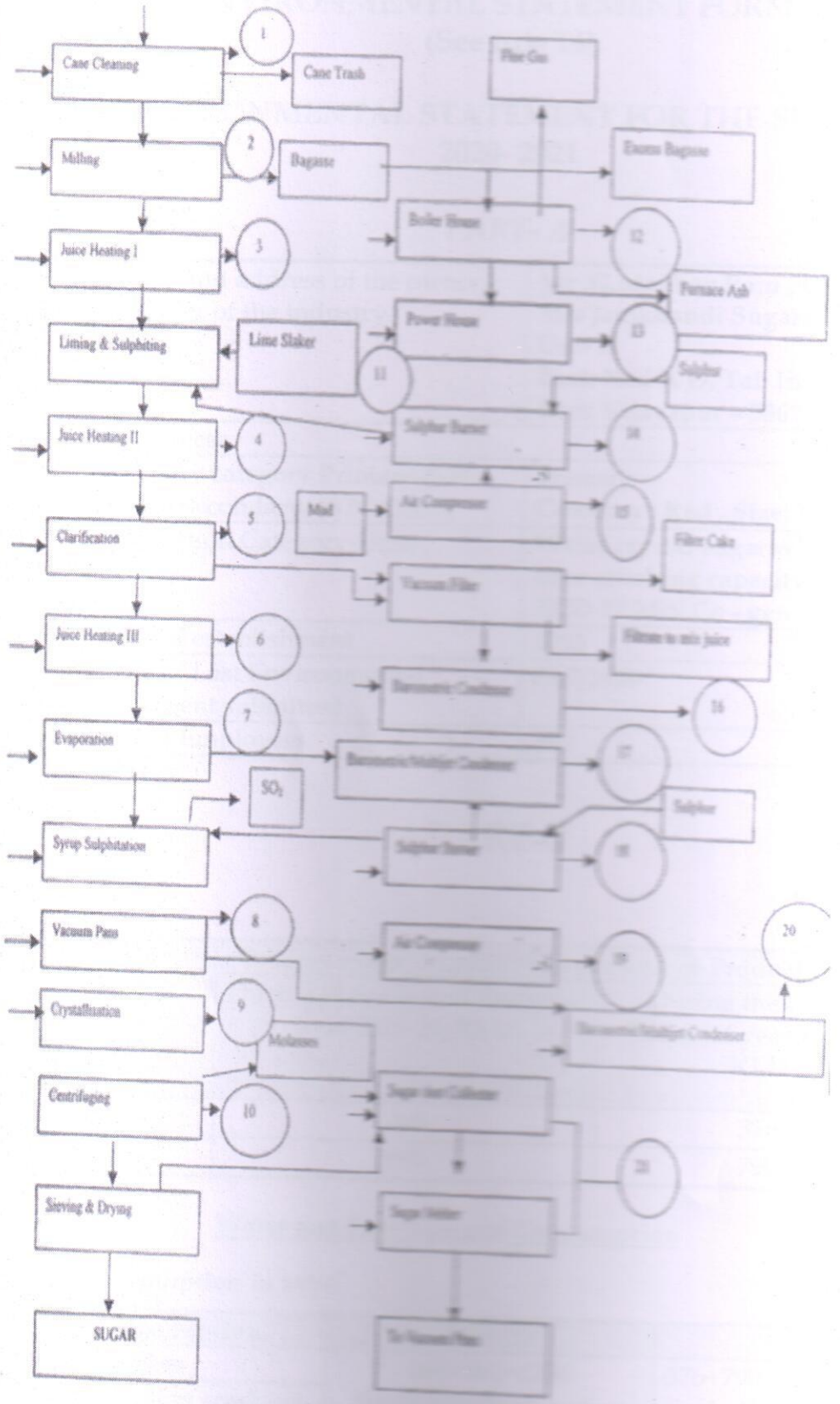
The syrup is sent to pan floor for further concentration in vacuum pans. The syrup collected in supply tanks is taken to pans for boiling where the syrup concentrates and attains super saturation stage. In such a condition sugar grains are formed in the syrup. The syrup mass with sugar particles is called massecuite. The massecuite is dropped in crystallizers and cooled to complete the crystallization.

Curing or Centrifuging

Massecuite is taken into the high speed centrifugal machine. Sugar crystals are separated from mother liquor and sent to driers. Non crystallisable matter from the massecuite called molasses, is drained out from the centrifuge. The molasses is weighed and sent to storage tank.

Drying, Grading and Bagging

Sugar is dried in the vibrating hopper and graded by passing through standard sieves. The graded sugar is bagged, weighed for 50/100 Kgs net, stitched, numbered and stacked in sugar godown.



Process Flow diagram of Sugar industry

JAMKHANDI SUGARS LTD. UNIT-II
JSL
NAD K.D.

ENVIRONMENTAL STATEMENT FORM-V
(See rule 14)

ENVIRONMENTAL STATEMENT FOR THE SEASON 2020- 2021

PART- A

i.	Name and address of the owner/ occupier of the industry	Mr .G.Madhav Raju , CEO M/s Jamkhandi Sugars Ltd., Unit II Post: Nad K D, Tal: Indi, Dist: Vijayapur - 586217
Operation or Process		
ii.	Industry category Primary-(STC Code) Secondary- (STC Code)	Primary Category : Red , Size: Large
iii.	Production Category-Units	White crystal sugar with sugar cane crushing capacity of 3500 TCD 27 MW Co - gen
iv.	Year of establishment	2012
v.	Date of Last Environmental Statement submitted	05/7/2020
vi.	No. of Employees	350

PART-B

Name of the Products	Process water consumption per unit of Product Output	
	During the previous financial year 2019-20, KLD	During the current financial year 2020-21, KLD
Sugar	268	376
Power	880	790

Water and Raw Material Consumption

i. Water Consumption in m^3/d

Water Consumption	2019-20	2020-21
Process	268+982=1250 (including fresh water+ condensate water)	376+790=1166 (including fresh water+ condensate water)
Cooling (including washing and boiler feed)		
Domestic	34	15

JAMKHANDI SUGARS LTD. UNIT-II
JSL
NAD K.D.

Water Consumption per unit of output

ii. Raw Material

Consumption

Name of the Raw Material	Name of the Product	Consumption of Raw material per unit output	
		During the Current Season 2019-20	During the Current Season 2020-21
Sugar cane	Sugar	293401.872	440812.860 Ton/annum
Lime		585	705 Ton/annum
Sulphur		170	242 Ton/annum
Bagasse	Power	81066.938	116506.823 Ton/annum

* 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 discharged to environment / unit of output
(Parameters as specified in the consent issued)

Pollutants	Discharge of pollutants (Kg/day)	Concentration of Pollutants discharged mg/volume	Reasons
Water	• Domestic effluent is treated in septic tank and soak pit. • Effluents from washings are treated in an ETP consisting of collection cum reaction tank, settling tank, pressure sand filter and final collection tank. • Monitoring of the characteristics of effluent washings will be outsourced to KSPCB empanelled laboratories.		
Air	• Emission from 120 TPH boiler with chimney of 90 mt pass though ESP before emitting in to atmosphere • 320 KVA DG set is also equipped with chimney of 6 mtr AGL		
• Monitoring reports are enclosed herewith for your kind perusal			

JAMKHANDI SUGARS LTD. UNIT-II
JSL
NAD K.D.

PART-D

HAZARDOUS WASTE

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

Hazardous Waste	Total Quantity (Kg)	
	During the Previous Financial Year 2019-20	During the Current Financial Year 2020-21
a) From Process	129 litres/annum used within the premises as libricants	193 litres/annum used within the premises as libricants
b) From Pollution Control facilities		

PART-E

SOLID WASTES

Particulars	Total Quantity (Kg)	
	During the Previous Financial Year 2019 - 2020	During the Current Financial Year 2020-21
a) From Process Rejected Waste Film (Plastic)	Ash 6.3 Press mud 57	Ash 8.44 TPD Press mud 77 TPD
b) From Pollution Control facility (Organic Sludge)	ETP sludge= 45 kg/day	ETP sludge = 50 kg/day
c) Quantity recycled or reutilized within the unit	Bagasse = 795 TPD	Bagasse = 1069 TPD

PART-F

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

The Hazardous waste generation is from D.G. Set of capacities 320 KVA in the form of used oil and is classified under Category No.5.1 according to Hazardous Wastes (Management & Handling) Amended rules 2003. The quantity is approximately 100 liters per annum. The quantity solely depends on the usage of D.G. Sets (more usage when there is no power supply). This is stored securely in sealed barrels in the premises and used as a lubricant in the mill gear, Carrier chains as lubrication .

The ash is mixed with press mud and sold as manure to member farmers.

JAMKHANDI SUGARS LTD. UNIT-II
JSL
NAD K.D.

PART G

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

A. Impact of pollution abatement on conservation

a. Cleaner Effluents

During the manufacturing process, wastewater is generated from various sections viz. process, washing area, domestic activity.,

The consumption of fresh water is kept in control because of production planning, maintaining dedicated production facility and optimization of wash water amount.

b. Resource Conservation & Recovery

Proper production planning and quality management techniques have resulted in lesser consumption of raw material which has resulted in lesser wastage of raw material, which earlier used to reach E.T.P.

c. Solid Waste Reuse

Baggasse generated as a byproduct from the sugar industry is reused as fuel for captive power plant.

The sludge generation from E.T.P. is partly used as manure in the plant premises. The remaining sludge is given free of cost to member farmers to use as manure.

B. Impact of pollution abatement on the cost of production

The expenditure incurred on the maintenance and running of the ETP works out to be 2.7 lakhs rupees this year. This includes the cost of chemicals, machinery repairs, machinery repairs, replacement of parts, labor etc.

PART-H

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

The company has already adopted various quality systems and improved manufacturing discipline. This has resulted in material conservation and waste reduction this year.

The industry has reduced its fuel consumption this year considerably compared to previous year. The indirect benefits are lesser emission of pollutants, maintenance of ambient air quality and energy conservation.

JAMKHANDI SUGARS LTD. UNIT-II
JSL
MADKD.

PART-I

MISCELLANEOUS

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

The industry shall try to utilize all the treated effluent optimally for factory lawns & growing more trees in the premises.

Thanks & Regards

G.MADHAVARAJU

CHIEF EXECUTIVE OFFICER

Jamkhandi Sugars Ltd. Unit II
NAD KD I Indi – Tq I Bijapur – Dist
Karnataka-State I India I Pin –586209
E-mail ceo@jamkhandisugars.com

JAMKHANDI SUGARS LTD. UNIT-II
JSL
NAD K.D.