

Jamkhandi Sugars Ltd.

ಜಮಖಂಡಿ ಶುಗರ್ಸ್ ಲಿ. ಜಮಖಂಡಿ.



M.D. : 254188, OFF : 254161/2/3/4 STD : 08353

Tele Fax : 08353 - 254160.

e-mail : jslinfo@rediffmail.com

Ref No: JSL/Mfg/Env Audit/2014-15/ 2786

Date:14/10/2014

To,
The Environmental Officer,
Karnataka State Pollution Control Board,
Parisara Bhavan 2nd Floor 4th & 5th Floor
Church street
Bangalore-560010

Sir,

Sub: Submission of Environmental Statement For the year 2013-14

With reference to the above subject, we are herewith submitting the Environmental statement for the financial year 2013-14 for our "M/sJamkhandi Sugars Ltd" located at Hirepadasalgi village, Naganur Post – 587301, Jamkhandi Taluk, Bagalkot District, Karnataka. Kindly acknowledge the receipt,So that we can up load the same in our website.

Thanking you,

Yours truthfully,

M/s Jamkhandi Sugars Limited
For, Jamkhandi Sugars Limited

Managing Director
Authorized Signatory

Encl:

Form –V
Annexure

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR 2013-2014

PREPARED FOR

M/s. Jamkhandi Sugars Ltd., Unit I

Post: Hirepadasalgi, Nagnur, Tal: Jamkhandi
Dist: Bagalkot - 587301

Prepared by



ENVIRONMENTAL HEALTH & SAFETY CONSULTANTS
(No.13/2, 1st Main Road, Near Fire Station, Industrial Town, Rajajinagar
Bangalore - 560 010. Tele: 080-23012100. Fax: 080 23012111



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.

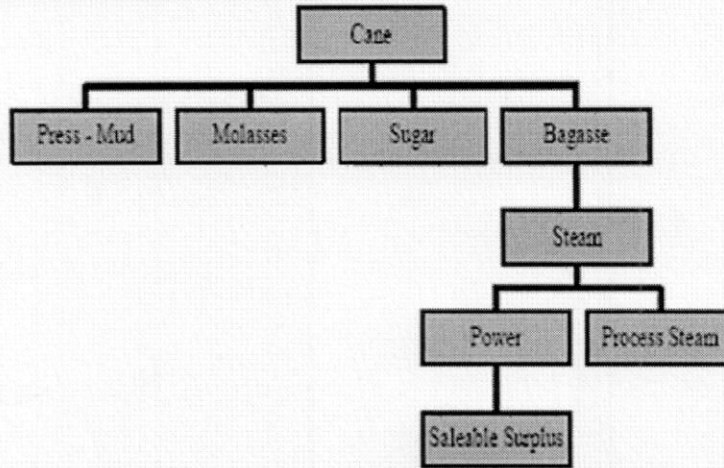
2.0. General Information

Name of the Industry	M/s. Jamkhandi Sugars Ltd .,Unit I
Registered office Address	Jamkhandi Sugars Ltd At:Hirepadasangi, Post: Nagnur, Tal: Jamkhandi Dist: Bagalkot -587301
Factory Address	M/s Jamkhandi Sugars Ltd., (Unit I) Post: Hirepadasalgi, Nagnur, Tal: Jamkhandi Dist: Bagalkot - 587301
Name, Designation of the applicant	V. Sivaprasam, Managing Director,
Type of Industry	Sugar plant Size: Large Category: Red
Capacity of the industry	5000 TCD sugar plant and 27 MW co gen
Consent Order	PCB/113/HPI/2010/1149 dated 31-10-2013



3.0. PROCESS FLOW DIAGRAM

Product, Production Capacity & Product Mix

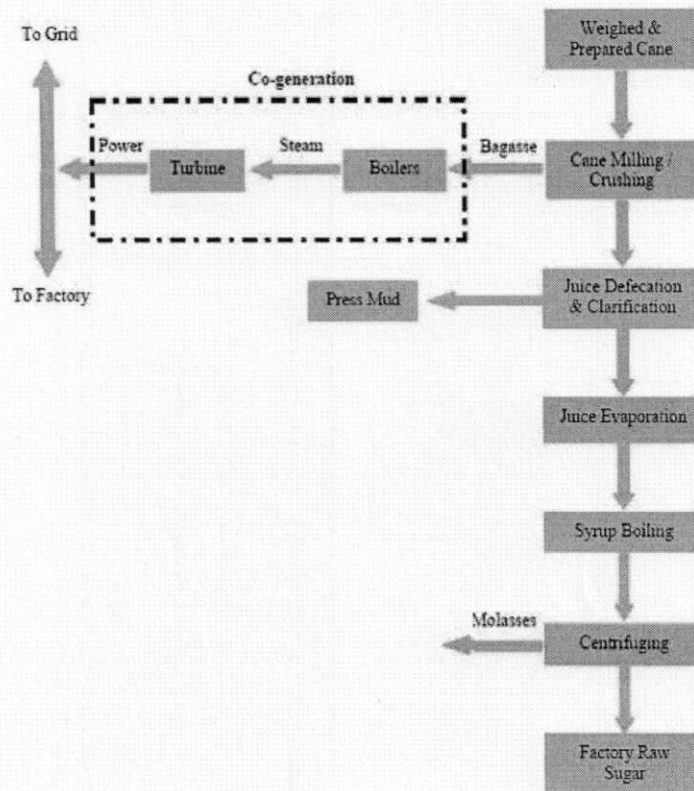


Product mix

Product Mix

Sl.No	Product	Quantity
1	Sugar	600 TPD
2	Power	27 MW





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 imbibition 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.

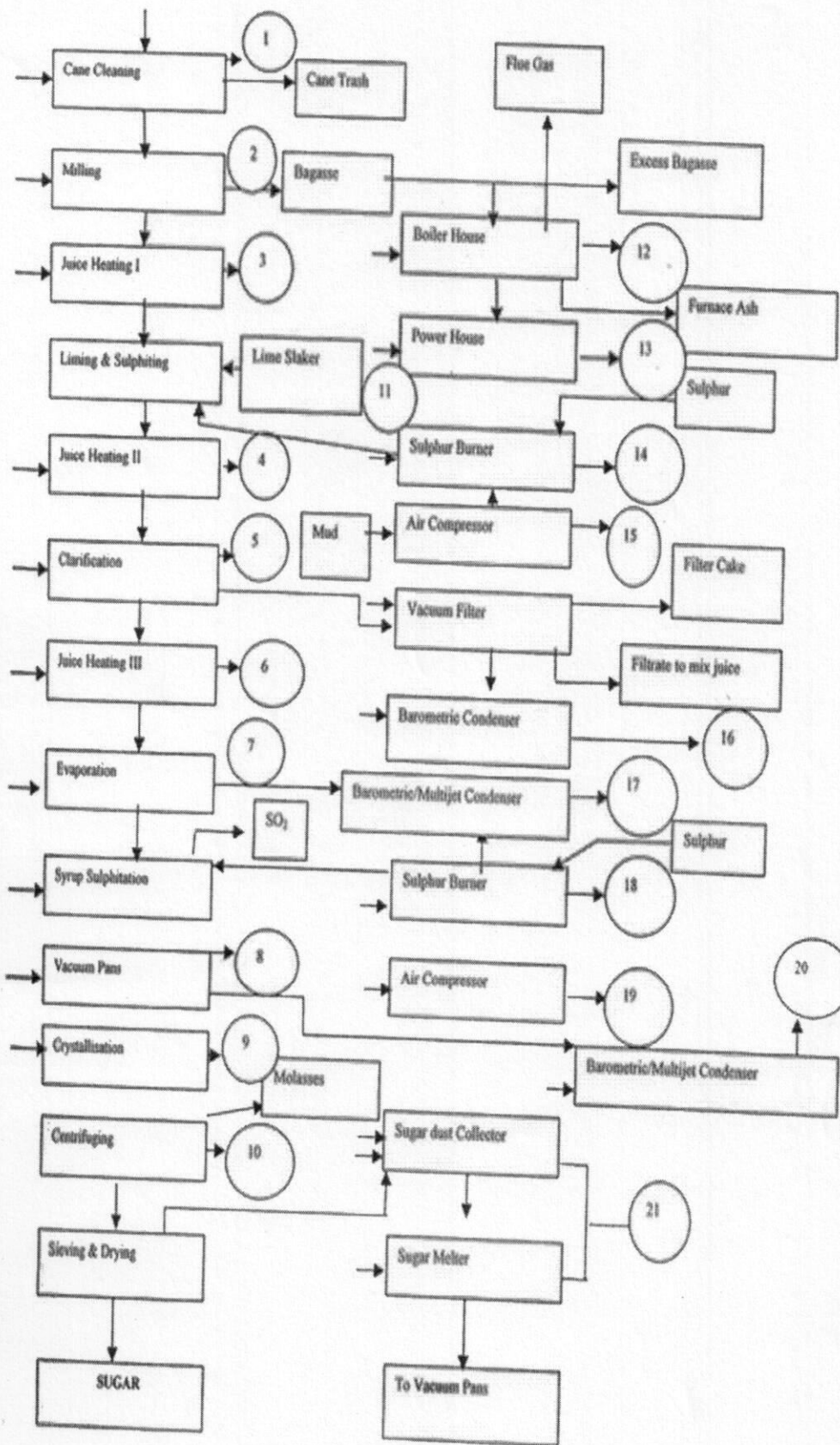
Curing or Centrifuging

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



ENVIRONMENTAL STATEMENT FORM-V
(See rule 14)

**ENVIRONMENTAL STATEMENT FOR THE FINANCIAL
YEAR ENDING 31ST MARCH 2014**

PART- A

i.	Name and address of the owner/ occupier of the industry	V. Sivaprasam, Managing Director, M/s Jamkhandi Sugars Ltd.,(Unit I) Post: Hirepadasalgi, Nagnur, Tal: Jamkhandi Dist: Bagalkot - 587301
Operation or Process		
ii.	Industry category Primary-(STC Code) Secondary- (STC Code)	Primary-(SIC CODE)-2000 Secondary-(SIC CODE)-2061 Category : Red , Size: Large
iii.	Production Category-Units	White crystal sugar with sugar cane crushing capacity of 5000 TCD and 27 MW/hr cogeneration
iv.	Year of establishment	2001
v.	Date of Last Environmental Statement submitted	September 2012
vi.	No. of Employees	425 nos

PART-B

Water and Raw Material Consumption

i. Water Consumption in m³/d

Water Consumption	2012-13	2013-14
Process	220	165
Cooling (including washing and boiler feed)	300	150
Domestic	67	69

Note: Water demand is reduced because of the usage of _____ KLD of condensate water.



Fresh Water Consumption per unit of output

Name of the Products	Process water consumption per unit of Product Output	
	During the previous financial year 2012-13, KLD	During the current financial year 2013-14, KLD
Process water (Lit/kwh of power produced)	1.31	0.42
cooling water(Lit/kwh of power produced)	0.63	0.64

Products

SI No	Particulars	Unit	During the previous year 2012-13	During the current year 2013-14
1	Sugar	Tonnes/day	553	554
2	Total power generated	KW h	67408180	71025228
3	Total power exported to grid	KW h	42252500	44637500
4	Effluent generated	l/ KW h of power generated	0.779	0.680



ii. Raw Material Consumption

Products	Raw Materials	Consumption of raw material per unit of output	
		During the previous financial year 2012-2013	During the current financial year 2013-14
Sugar	Sugar Cane	3817 MT/day	3761.37 MT/day
	Bagasse used as fuel	173.170	214.27
	Lime	0.19	0.18
	O.P. Acid	0.02	0.42
	Sulfur	0.038	0.05
	Caustic Soda	0.0064	0.62
	Lubricants (Kgs/MT of Sugar cane crushed)	0.024	0.24
Steam, Power Consumption:	Steam consumption (Kg/MT of cane crushed)	468.09	461.15
	Power Consumption (KW/MT of cane crushed)	41.89	36.79
Byproducts (Kg/MT of Cane crushed)	Molasses	45.43	45.78
	Bagasse	304.48	301.63
	Pressmud	27.22	30.42
Co-gen Unit (Product: Power)	Fuel used (Bagasse & Cane trash) (Kgs / Kwh of Power generated)	2.56	2.93
Steam Consumption and Bye-Products Quantity:	Steam Consumption (Kgs / Kwh of Power generated)	3.94	4.08
	By-Products: Ash generated (MT)	2093	2053

- 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Emission from 90 TPH boiler, 70 TPH boiler with chimney of 90 mt and 56 mts pass through ESP, Wet scrubber respectively before emitting in to atmosphere • 725 KVA, DG set is equipped with chimney of 20 mts . respectively 		
<ul style="list-style-type: none"> • Monitoring reports are enclosed herewith for your kind perusal 			

PART-D

HAZARDOUS WASTE

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

Hazardous Waste	Total Quantity (T/annum)	
	During the Previous Financial Year 2012-13	During the Current Financial Year 2013-14
a) From Process	0.3T/A used within the premises as lubricants	0.24T/ annum used within the premises as lubricants
b) From Pollution Control facilities		



PART-E

SOLID WASTES

Particulars	Total Quantity (Kg)			
	During the Previous Financial Year 2012-2013		During the Current Financial Year 2013-2014	
a) From Process Rejected Waste Film (Plastic)	Ash	424 TPA	Ash	520 TPA
	Press mud	15485 TPA	Press mud	20810 TPA
b) From Pollution Control facility (Organic Sludge)	ETP sludge= 100 kg/d		ETP sludge=100kg/day	
c) Quantity recycled or reutilized within the unit	Bagasse = 173170.991		Bagasse =208314.346	

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 725 KVA, 500 KVA and 320 KVA DG set 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 300 lts /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.

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

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

Bagasse 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 3 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.

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 growing more trees in the premises.

For, Jamkhandi Sugars Limited


Managing Director
Authorized Signatory

