REF: F.No.J-11011/980/2007 –IA II (I), dtd 23/10/2008

Date: 04.06.2019

SHREE RENUKA SUGARS LTD, UNIT IV SR.NO.367, VILLAGE – BURLATTI, TAL – ATHANI, DIST – BELGAUM

COMPLIANCE TO THE MOEF – ENVIRONMENTAL CLEARANCE CONDITIONS

Expansion of capacity of sugar unit from 5000 TCD to 10000 TCD, Co-generation from 38 MW to 58 MW and Distillery unit from 120 KLPD to 300 KLPD to manufacture Rectified Spirit (300KLPD)

Sr. No.	Conditions	Compliance
2	The ministry of Environment and Forest has Examined the proposal. It is noted that proposal is for environmental clearance for expansion of capacity of sugar unit from 5000 TCD to 10000 TCD, Co-generation from 38 MW to 58 MW and Distillery unit from 120 KLPD to 300 KLPD to manufacture Rectified Spirit (300KLPD), Ethanol out of RS (285 KLPD). and byproduct Fuel oil (0.6 T/d)by Shree Renuka Sugars Ltd. In District Belgaum, Karnataka. No Eco-sensitive areas are located within 10 Km radius of plant area. Krishna river flows at a distance of 4 Kms from the proposed unit. The land required after expansion will be 68 Ha. Green belt will be developed in 29.74 Ha of area The unit will operate for 240 day during the season and 90 days during the off season. Additional investment for the expansion will be Rs.300 corers and for pollution control facilities will be Rs.30 corers**.**	The present capacities are as follows. Sugar plant – 10000TCD. Co-generation – 68 MW Distillery – 2 X 150 KLPD The Byproduct is Fusel oil and the quantity is 0.6 T/d. The River Krishna flows at distance of 12 Kms from the unit. The distribution of land use is as follows. a) Total Area – 93.2 Ha. b) Built up area-56.4 Ha. i).Build up area of factory including sugar plant, power plant, Distillery, switch yard, go down, store, workshop, WTP, cooling tower etc. ii)Pollution control facilities(Including Bagasse, Press mud, Ash storage Yard, Compost yard, ETP etc) c) Provision for expansion And residential area – 6.0 Ha. d) Green belt area a – 30.8 Ha. The green belt detail is attached with amended EC dated 29th Nov.2012 compliance. The investment for total project is -816.76 cores. (Including existing)

3	The fresh water requirement of 626 M3/d for the sugar unit will be met from Krishna River about 7000 M3 of water will be recovered from sugarcane. Out of 3729 m3/d of water requirement, fresh water requirement of 235 M3/d for the distillery will be met from river Krishna and rest of water present in molasses, condensate from evaporator and sugar plant etc. The water requirement for domestic purpose will be 105 M3/d. The power requirement of 18 MW will be met from KSEB and Own co-generation power plant of 58 MW. The units will export surplus power of 40 MW during season and 38.5 MW during of season. Fuel for boiler will be bagasse (2400T/day). DG set of 2000 KVA is also proposed.	The detail water requirement for Sugar, Co-generation and Distillery along with fresh water consumption and Reused water is attached as **Annexure-1**
4	The effluent (516 KLD) from sugar unit will be treated in ETP and treated effluent will be recycled in the process and reused for irrigation. It is proposed to adopt continuous fermentation technology. The spent wash treatment will be concentration in multi- effect evaporator followed by incineration in the boiler. Domestic Effluent will be treated in septic tank followed by anaerobic filters. Two boilers of 100 TPH capacity each and one boiler of 130 TPH capacity will be installed. Emission from the bagasse/rice husk/coal fired boilers will be controlled by providing ESP with stack height of 70 m CO2 generated from the fermenter will be scrubbed with water. Solid waste generation from sugar unit will be bagasse, molasses, and press mud, which will be used in the distillery unit. The solid waste generation from distillery unit will be yeast sludge, which will be used in composting.	The effluent generated from sugar and Co-generation unit is 990 m3/day is being treated in, Anaerobic filters followed by Activated sludge process with two stage extended aeration system. Treated effluent is being used for irrigation/green belt development within the Factory premises. The flow diagram of the ETP and month wise treated effluent analysis report attached as an **Annexure – 2.** For the Spent wash treatment – 1. The entire spent wash generated from 150 KLPD distillery capacity is being used for Bio-methanation followed by evaporation and concentrated bio-methanated spent wash is being used for making Bio-composting by using press-mud on RCC concreted Compost yard Area 24 Acres . 2. The entire spent wash generated from another 150 KLPD distillery capacity is being evaporated in Falling Film Evaporator followed by concentration in MEE. Concentrated spent wash is being incinerated in incineration Boiler of 60 TPH capacity. 3. The condensate generated during the evaporation and spent lees are being recycled back to process after treatment in condensate polishing unit of 1800 M3 per day capacity having Bio-digester followed by 2 stage activated sludge process and Multi Media filter and Activated carbon Filter. Domestic effluent is being treated in a septic

		tanks followed by the Soak pits Co-generation Capacity for 68 MW- . The 60 TPH Spent wash incineration and 130 TPH boilers are provided with independent ESP as air pollution control equipment and attached to the common stack/chimney of 85 M height. The 140 TPH Boiler is provided with individual ESP stack height of 75 m. One DG sets of 1165 KVA, 2.0 nos. of 1010 KVA and 250 KVA are provided for emergency power supply. The DG set are provided with Acoustic enclosures and mufflers. The Solid wastes/ by products from Sugar unit and their utilization are as follows. Bagasse – 3000 MT – for Co-generation plant as a Fuel. Molasses – 400 MT for distillery to produce Rectified Spirit. Press Mud – 400 MT used as raw material for composting.
5	All molasses based distilleries have been listed at SI.no.5 (g) in category 'A' as per the EIA notification 2006 and have to be apprised by central Government. The Expert Appraisal committee considered the project in its 85th Meeting held on 23rd September 2008.The committee recommended the project for environmental clearance. Public hearing of the project was held on 3rd June 2008	Noted the contents
6	Based on the information submitted by project authorities, the Ministry of Environment and Forest here by accords environmental clearance to above project under the provisions of EIA Notification dated 14th September 2006 subject to strict compliance of the following Specific and General Conditions.	Noted and the compliance to the specific conditions are as follows.
A	**Specific Conditions**	
1.	The particulate emissions from the two 100 TPH each and 130 TPH bagasses/rice husk/coal fired boilers and from the co generation power plant shall be controlled by ESP and emissions shall be dispersed through stacks for which height shall be as per CPCB standards. The emissions from the DG sets shall be dispersed through a stack height of CPCB standards. DG sets shall be provided with acoustic enclosures to mitigate the noise pollution.	The EC is obtained for Co-generation Plant for Capacity - 68 MW (Vide MOEFCC letter No. : Environmental Clearance REF: No.J-13012/92/2011-IA.II(T), dtd:20.08.2014) The Boilers 60 TPH Spent wash incineration boiler and 130 TPH are provided with independent ESP for Air pollution control and attached to the common stack/chimney of 85 M height and Boiler 140 TPH is provided

		with individual ESP and stack height of 75 m One DG sets of 1165 KVA, 2.0 nos. of 1010 KVA and 250 KVA are provided for emergency power supply. The DG set are provided with Acoustic enclosures and mufflers.
2.	The company shall adopt continuous fermentation technology. For treatment of spent wash, for initial one year from the date of environmental clearance, the unit shall adopt concentration followed by bio composting and after one year the same shall be shifted to concentration in the multiple effect evaporator followed by incineration in the boiler. No effluent shall be discharged outside the factory premises and zero discharge shall be strictly followed. Land and other requirements for the treatment of spent wash shall be as per the CPCB guidelines. The effluent from the sugar unit after primary, secondary and tertiary treatment and conforming to the prescribed standards shall be used for green belt development and irrigation within the plant premises to achieve zero discharge. The storage capacity for the treated effluent from the sugar unit shall not be more than 15 days.	As per the guidelines the continuous fermentation technology is provided. The distillation with integrated Falling Film evaporation system is provided to control the spent wash generation at source. For the Spent wash treatment – 1. The entire spent wash generated from 150 KLPD distillery capacity is being used for Bio-methanation followed by evaporation and concentrated bio-methanated spent wash is being used for making Bio-composting by using press-mud on RCC concreted Compost yard Area 24 Acres . 2. The entire spent wash generated from another 150 KLPD distillery capacity is being evaporated in Falling Film Evaporator followed by concentration in MEE. Concentrated spent wash is being incinerated in incineration Boiler of 60 TPH capacity. 3. The condensate generated during the evaporation and spent lees are being recycled back to process after treatment in condensate polishing unit of 1800 M3 per day capacity having Bio-digester followed by 2 stage activated sludge process and Multi Media filter, Activated carbon Filter and softener as tertiary treatment as per Environmental Clearance vide letter No. F. No. J-11011/980/2007- l A II (I), Dated 29th November, 2012. The entire sugar unit effluent is being treated in the Anaerobic filter followed by Activated sludge process with two stages extended aeration system as per the CPCB guidelines and treated effluent is being used for irrigation/green belt development within the Factory premises.
3.	The spent wash shall be stored in impervious pucca lagoons. The spent wash lagoons shall have proper lining with HDPE and shall be kept in proper condition to prevent ground water pollution. As per the CPCB recommendation,	The generated entire spent wash is being Stored in Steel tank above the ground level.

	storage for the concentrated spent wash shall not exceed 30 days capacity for initial one year and 5 days when treatment of spent wash would be by concentration and incineration.	
4.	Adequate numbers of ground water quality monitoring stations by providing piezometers around the compost plant shall be set up. Sampling and trend analysis monitoring must be made on monthly a basis and report submitted to SPCB and this Ministry.	The summery of ground water quality of the piezometer, wells around/near the compost is being monitored regularly on monthly basis. The month wise water quality analysis report is attached **Annexure – 03**.
5.	The company shall obtain permission from the State Irrigation Department to draw the water.	The permission from Irrigation Department is already obtained for drawing the water from river Krishna
6.	Green belt in 33% of the plant area shall be provided to mitigate the effects of fugitive emissions all around the plant and compost yard as per the CPCB guidelines in consultation with the local DFO.	The green belt development work is continuous process. The green belt detail is attached with amended EC dated 29th Nov.2012 compliance.
7.	Company shall adopt rainwater-harvesting measures to recharge the ground water.	The rainwater harvesting measures are planned to recharge the ground water in the area. 1. The rainwater during rainy season is being collected at the lowest point of the factory area. 2. The place selected for the storage of rainwater is towards southeast corner of the factory area. 3. A pond with earthen bunds of size 100 M X 100 M X 2.65 M total capacity is26500 M3. 4. This 26500 M3 Stored rainwater will help to recharge the ground water in the area.
8.	Provision shall be made for the housing for the construction labor with in the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile sewage treatment plant, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structure to be removed after the completion of the project. All the construction wastes shall be managed so that there is no impact on the surrounding environment.	Housing facility with necessary infrastructure was provided to the construction labours. However the construction activity is completed and presently no construction labors are staying at the site. All the construction waste is properly managed to avoid the impact on surrounding environment.
B.	**GENERAL CONDITIONS:**	
i	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forest.	The further Expansion activity if any will be carried out with the prior approval of the MOEF.

.ii	Ambient Air Quality Monitoring Stations shall be set up in the down wind direction as well as where maximum ground level concentration of SPM, SO2, NOx are anticipated in construction with the State Pollution Control Board.	Three Ambient Air quality Monitoring stations are already set up in consultation with KSPCB officials in the down ward wind direction and Air quality monitoring is being monthly carried out for SPM, SO2 and Nox during season. The month wise of AAQM monitoring report is attached as an **Annexure 04**
iii	Adequate number of in-fluent and effluent quality monitoring stations shall be set up in consultation with the State Pollution Control Board. Regular monitoring should be carried out for relevant parameters.	We are analyzing the influent and treated effluent sample. The sample is collected from the influent receiving tank. After treatment the out let effluent sample is being collected from the polishing pond and analyzed for the standards norm prescribed by CPCB/KSPCB.
iv	The industry shall ensure that the treated effluent and stack emissions from the unit are with in the norms stipulated under the EPA rules or SPCB whichever is more stringent. In case of process disturbances/failure of pollution control equipment adopted by the unit, the respective unit shall be shut down and shall not be restated until the control measures are rectified to achieve the desired efficiency.	The effluent and stack emission results are within the norms prescribed by KSPCB. The pollution control process and equipments are always under operations and maintained properly to avoid any brake down / failure in the system.
v	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	To maintain the noise level within the prescribed limits, the noise control measures including acoustic hoods, silencers, and enclosures are provided. The ambient Noise level is within the standard prescribed under EPA Rules, 1989. The Values of the Noise levels summery is attached as an **Annexure 04 .a** .
vi	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report.	The environmental protection measures and safeguards recommended in the EIA/EMP are implemented and complied.
vii	Occupational health surveillance programme shall be undertaken as regular exercise for all the employees. The first aid facilities in the occupational health center shall be strengthened and the medical records of each employee shall be maintained separately.	The occupational health surveillance progamme is already undertaken as regular exercise. The factory has provided the Hospital in the campus for this purpose. The first aid facilities are already at place and medical record of the each employee is being maintained separately.
viii	A separate environmental management cell equipped with full fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.	Separate Environmental Management cell with laboratory facility is already set up. The Environmental Cell details and minutes of the meeting of Environment cell are attached as **Annexure – 05**
ix	The project authorities shall provide requisite funds for both recurring and non-recurring	The requisite fund is already provided for the implementation of the conditions stipulated

	expenditure to implement the conditions stipulated by the non-recurring expenditure to implement the conditions stipulated by the Ministry of Environment and Forest as well as the State government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	by the Ministry of Environment and Forest and State Government. The fund provided will be utilized for the same purpose.
x	The implementation of project vis-à-vis environmental action plans will be monitored by Ministry's Regional Office at Bangalore/State Pollution Control Board/Central Pollution Control Board. A six monthly compliance status report along with the monitored data shall be submitted to the monitoring agencies.	Six monthly Compliance report along with requisite monitoring data is being submitted to the mentioned offices within the stipulated time period.
xi	The Project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter available with State Pollution Control Board/ Committee and may also be seen at website of the Ministry of Environment & Forest at http:/envfor.nic.in. This shall be advertised with in seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional Office.	The advertisement is already published in two local newspapers.
xii	The project Authorities shall inform the Regional Office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	Commissioning dates of the plants. Sugar - 31st October.2009 , Co-gen - 1st October.2009 Distillery- 25th November.2009