



भारत सरकार

GOVERNMENT OF INDIA

पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
MINISTRY OF ENVIRONMENT, FORESTS & CLIMATE
CHANGE



Regional Office (South Eastern Zone),
1st & 2nd floor, HEPC Building, No.34, Cathedral Garden Road,
Nungambakkam, Chennai - 600034

F.No. EP/12.1/2012-13/39/AP / 0887
08.06.2017

To,

Shri. Ravichandran Gogineni,
Managing Director
M/s. Crux Biotech India Private Limited
R. Sy No:529,530,531,532,
Peddavaram Village, Nandigama Mandal,
Krishna District,
Andhra Pradesh-521185.

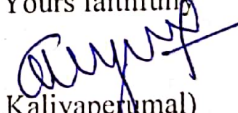
Subject: Grain based Distillery Plant (60 KLPD) along with Captive Power Plant (2.5 MW) a Plot No. 529 (p), 530, 531(p), 532(p), 536(p), 557(p), 564(p), Village Peddavaram, Mandal Nandigama, District Krishna, Andhra Pradesh by M/s. Crux Biotech India Pvt. Ltd- Environmental Clearance-Reg.-Certified Copy of the Compliance Report-Reg.

Reference: 1) F.No. J-11011/579/2010-IA II (I) dated 16.10.2012.
2) Your letter dated 20.03.2017.

Sir/Madam,

With reference to 2nd cited above, please find enclosed herewith a certified copy of the compliance report. This has been approved by the Addl.PCCF(C) vide diary no.637 dt 23.05.2017.

Yours faithfully


(Dr.C.Kaliyaperumal)
Director (S)

Dr. C. KALIYAPERUMAL, M.E., PhD
Director (S)

Government of India
Ministry of Environment, Forests & Climate Change
Regional Office (South Eastern Zone)
HEPC Building, No.34, Cathedral Garden Road,
Nungambakkam, Chennai-600 034.

Encl: As above.

Certified Copy of the Compliance Report

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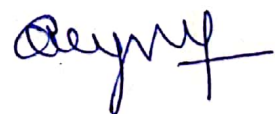
Present Status of the project:

The Project Authority (PA) have constructed and commissioned the project and they are producing 60 KL of ENA per day. The unit is under operation.

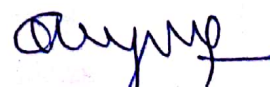
Date of Monitoring: 20.05.2017.

A. SPECIFIC CONDITIONS:

S.No	Conditions	Compliance
i)	Environment clearance accorded is for grain based distillery unit (60 KLPD) only and no molasses based distillery unit shall be operated without prior permission from the Ministry.	Complied. Environmental clearance accorded is for grain based distillery unit (60 KLPD) only and not molasses based distillery unit and the Project Authorities (PA) is manufacturing grain based ENA only. They have agreed to obtain permission from the Ministry in case they change the raw material. The PA have obtained consent to operate from APPC vide letter No. APPCB/VJA/VJA/HO/2016 dated 25-02-2016 under water Act & Air Act for grain based operation only. Consent to operate for grain based production is enclosed as Annexure-1.
ii)	Permission shall be obtained from the State Forest Department regarding the impact of the proposed unit on the surrounding reserve forest viz. Jaggayyapeta RF and Gudimetla RF.	Complied. The PA have obtained permission from State Forest Department vide their letter number Rc.No./1795/2011-F3, dated 15-04-2011 from the Office of the Principal Chief Conservator of Forests, AP. Copy is enclosed as Annexure-2.
iii)	Measures shall be taken to mitigate PM ₁₀ levels in the ambient air and a time bound action plan shall be submitted. Bag filter along with stack of adequate height shall be provided to coal / biomass fired boiler to control particulate emission within 50 mg/NM ³ . At no time, the emission levels	Complied. An adequate measures such as pucca cement concrete roads in the factory areas, water sprinkling and regular cleaning are carried out to mitigate the dust levels to reduce PM ₁₀ level in the ambient air. They have installed Bag



	<p>should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency.</p>	<p>filters to minimise particulate emissions. 45 meters height and 1.4 meter dia stack is provided. The boiler emission level is within 50 mg/NM³. As informed the levels did not go beyond the limits and they get alarm in case of exceeding the limit. Further the PA have informed that in the event of failure of any pollution control system adopted by the unit, the respective unit will not be restarted until the control measures are rectified to achieve the desired efficiency. Bag filters & Stack photographs are enclosed Stack results as Annexure-3.</p>
iv)	<p>The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No.826 (E) dated 16th November, 2009 shall be followed.</p>	<p>Complied. The PA have purchased one High Volume Sampler and monitoring the ambient air quality on monthly basis in consultation with SPCB. Though the levels are within the limit, the frequency of monitoring is inadequate. The undersigned directed the PA to increase the monitoring frequency and for that they have agreed. Reports are enclosed as Annexure-4.</p>
v)	<p>In plant, control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Fugitive emissions shall be controlled by providing closed storage, closed handling & conveyance of chemicals/materials, multi-cyclone separator and water sprinkling system. Dust suppression system including water sprinkling system shall be provided at loading and unloading areas to control dust emissions. Fugitive emissions in the work zone environment, product, raw materials storage area etc. shall be regularly monitored and records shall be maintained. The emissions shall conform to the limits imposed by A P Pollution Control Board (APPCB).</p>	<p>Complied. In plant control measures such as internal concrete roads, regular manual cleaning of dusts, water sprinkling, covered transportation and fully covered storage sheds are carried out to control the fugitive dust levels. In the work zone environment, product and raw materials storage area etc., fugitive emission levels are regularly monitored and records are maintained. The emissions levels are conforming to the limits imposed by AP Pollution Control Board (APPCB). On line stack emission monitoring equipment is installed to the boiler stack and the real time monitored data are transmitted to CPCB and SPCB's server.</p>
vi)	<p>Pucca approach road to project site shall be constructed prior to commencing construction activity of the main distillery so as to avoid fugitive emissions.</p>	<p>Complied. The PA have widened the approach road to project site and have also laid pucca road before commencing the construction activity of main distillery to avoid fugitive emissions.</p>



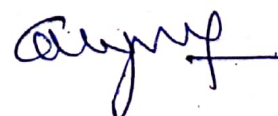
vii)	The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB guidelines. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution.	Photographs are enclosed as Annexure-5. Complied. DG Set has been provided with acoustic enclosure and an appropriate height of stack as per CPCB guidelines.
viii)	The company shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on its website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal office of CPCB and the APPCB. The levels of PM ₁₀ , SO ₂ , NO _x , CO and HC (Methane) in ambient air shall be monitored and displayed at a convenient location near the main gate of the company and at important public places.	Complied. The PA have uploaded the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website. They have submitted the same to MoEF, RO, the respective Zonal office of CPCB and the APPCB. The levels of PM ₁₀ , SO ₂ , NO _x , CO (except HC-Methane) in ambient air are monitored and displayed at a convenient location near the main gate of the company. The company has installed online stack monitoring system and real time data are connected to CPCB and SPCB's server.
ix)	Total fresh water requirement from ground water source/Krishna River shall not exceed 10.60KL/KL of alcohol (i.e. 640 m ³ /day) for distillery and cogeneration unit (2.5 MW) and prior permission for drawl of water shall be obtained from the concerned authorities. A copy of permission shall be submitted to the Ministry's Regional office at Bangalore. Explore the possibility of using surface water only.	Complied. Total fresh water requirement has not exceed 10.6KL/KL of alcohol (i.e. 640m ³ /day) for distillery and cogeneration unit (2.5 MW) as informed. They are drawing water from the river Krishna and for that the PA have obtained permission from the Irrigation department, Govt. of A.P. Copy of the order for ground water drawl is enclosed as Annexure-6. Permission letter for drawl of water from river Krishna is enclosed as Annexure-7.
x)	Efforts shall be made to reduce the fresh water requirement from ground water source by adopting 3R's (Reduce, Reuse and Recycle) concept.	Complied. The PA are reusing the treated effluent for cooling water make up and green belt development. They are in the process of following the 3R's.
xi)	Spent wash generation shall not exceed 6 KL/KL of alcohol. Spent wash shall be treated through decanter and concentrated in multi-effect evaporator (MEE) followed by dryer to form DDGS. Spent less effluent from bottle washing, utilities and cogeneration unit shall be treated in effluent treatment plant (ETP) and water	Complied. The spent wash generated is within specified limit of 6 KL/KL of alcohol and treated in the Effluent treatment plant through decanters and it is fed into Multiple Effect Evaporator (MEE) followed by Dryer to produce DDGS. The effluent is monitored by the PA



	quality of treated effluent shall meet the norms prescribed by CPCB/SPCB and recycle/reuse.	and the levels are within the limit of APPCB. The PA have also installed on line effluent monitoring equipment for pH, TSS, BOD and COD and real time data are connected to CPCB and APPCB's servers.
xii)	No effluent from distillery and co-generation power plant shall be discharged outside the factory premises and 'Zero' effluent discharge concept shall be adopted.	Complied. No effluent from distillery and co-generation power plant is discharged outside the factory premises and they are following 'Zero' Liquid Discharge (ZLD) concept.
xiii)	Process effluent/any waste water shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.	Complied. The PA have provided separate concrete drains for storm water collection. The process waste water and the storm water are not mixed.
xiv)	Spent wash shall be stored in impervious lagoon with HDPE lining as per CPCB guidelines and shall be kept in proper condition to prevent ground water pollution. Storage capacity of spent wash lagoon shall be for 5 days.	Complied. The PA informed that lagoons are not required as the plant is operating on grain based only. The spent wash generated is directly fed into decanters and then to Multiple Effect Evaporator (MEE) followed by dryer to produce Distillery Wet Grain Soluble (DWGS). The PA have informed that the factory operations would be stopped immediately if at all any disturbances occurs and also have agreed to make an emergency storage pond/lagoon.
xv)	Adequate numbers of ground water quality monitoring stations by providing piezometers around the project area shall be set up. Sampling and trend analysis monitoring must be made on monthly basis and report submitted to SPCB and this Ministry. The ground water quality monitoring for pH, BOD, COD, Chloride, Sulphate and Total Dissolve Solids shall be monitored and report submitted to the Ministry's Regional Office at Bangalore and APPCB.	Refer below. The PA monitoring the ground water quality in one location through private party on monthly basis. Results are attached as Annexure-9. The undersigned directed the PA monitor the ground water levels by using piezometer around the project sites and for that the PA have agreed. The monitored data was submitted to MoEF, RO along with compliance report and also to APPCB.
xvi)	No storage of wet cake shall be done at site to avoid odour problem. An additional dryer shall be installed so that at any time wet cake is not sold then wet cake shall be converted into dry cake by operating additional dryer.	Complied. The PA is having wet cake and well as dry cake collecting system. Now they are collecting wet cake and disposing to private parties to use as poultry feed.
xvii)	Biomass/coal storage shall be done in such a way that it does not get air borne or fly	Complied. The PA have made has been a covered

Signature

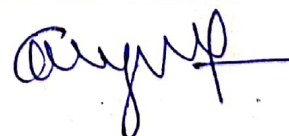
	around due to wind. For this, it shall be kept in wet form.	storage sheds for storing coal.
xviii)	Boiler ash shall be stored separately as per CPCB guidelines so that it shall not adversely affect the air quality, becoming air borne by wind or water regime during rainy season by flowing along with the storm water. Direct exposure of workers to fly ash & dust shall be avoided.	Complied. Complete closed ash handling system is provided to avoid ash in to air and total generated ash is sold to brick manufacturers. Direct exposure of dust is avoided since the ash is collected in the vehicle directly from the ash silo.
xix)	As proposed, ash shall be transferred in the covered truck. Ash shall be transferred to the brick manufacturing. A tie-up with brick manufacturers to be made in the form of agreement.	Complied. The PA have made a tie-up with brick manufactures, who regularly lift the ash in covered trucks to their location. Tie up letter attached as Annexure-8.
xx)	Fire fighting system shall be as per norms and cover all areas where alcohol is produced, handled and stored. Provision of foam system for fire fighting shall be made to control fire from the alcohol storage tank.	Complied. The PA have installed fire fighting system in all areas where alcohol is produced, handled and stored. Foam system and auto sprinklers are also has been provided to control fire.
xxi)	Risk Assessment shall be carried to assess the fire and explosion risk due to storage of alcohol and report submitted to the Ministry and its Regional Office at Bangalore within six months.	Refer below. Though the PA informed that Risk Assessment study was carried out to assess the fire and explosion risk due to storage of alcohol and the report was submitted to MoEF, RO no details made available.
xxii)	Occupational health surveillance programme shall be undertaken as regular exercise for all the employees. The first aid facilities in the occupational health centre shall be strengthened and the regular medical test records of each employee shall be maintained separately.	Complied. Occupational health surveillance programme is carried out for all the employees. The company has set up a Dispensary in the factory premises and appointed a full time Medical Assistant to carry out regular medical tests for the employees.
xxiii)	Dedicated parking facility for loading and unloading of material shall be provided in the factory premises. Unit shall develop and implement good traffic management system for their incoming and outgoing vehicles to avoid congestion on the public road.	Complied. Dedicated vehicle parking facility for loading and unloading of material are provided in the factory premises. The PA informed that the drivers are instructed to follow the good traffic management system for their incoming and outgoing vehicles to avoid congestion on the public road.
xxiv)	As proposed, green belt shall be developed in 9 acres out to total land 29.8 acres and plantation shall be done as per the CPCB guidelines in consultation with DFO. Thick greenbelt with suitable plant species shall be developed around the proposed	Complied. The PA have taken up plantation along the compound wall, outside the factory of their own land and within the factory by planting different plantation. They have covered more than 9 ac. The



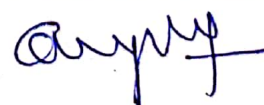
	distillery to mitigate the odour problem.	plantation works and survival rates are good. Photographs enclosed as Annexure-3.
xxv)	All the commitments made during the Public Hearing / Public consultation meeting held on 27th September 2011 shall be satisfactorily implemented and adequate budget provision should be made accordingly.	Complied. As informed by the PA Public hearing commitments are: Local employment, Pollution free environment, provision for Green belt, Maintaining ZLD. All the commitments made during Public Hearing are being implemented by providing local employment for 120 people, by providing 9 acres greenbelt and maintaining plant with Zero liquid Discharge.
xxvi)	Provision shall be made for the housing for the construction labour within 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.	Complied. The PA informed that necessary provision such as fuel for cooking, toilets, safe drinking water, medical health care were provided to the construction labours during the construction time. The housing were in temporary in nature and were removed after the construction works are completed. They have utilized the construction waste within the factory itself for levelling purpose.

B. GENERAL CONDITIONS:

S.No	Conditions	Compliance
i)	The Project authorities shall strictly adhere to the stipulations made by the AP Pollution Control Board.	Complied. The PA informed that all the stipulations made by the PCB are being implemented regularly. The CFO is valid up to 31.3.2021.
ii)	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Complied. No further expansion or modifications were carried out without prior approval of the Ministry of Environment and Forests. Now they are going for an expansion from 60 KLPD to 75 KLPD.
iii)	The locations of ambient air quality monitoring stations shall be decided in consultation with the A P Pollution Control Board (APPCB) and it shall be	Refer below. The PA informed that Ambient Air Quality is Monitored at three locations in consultation with PCB officials on

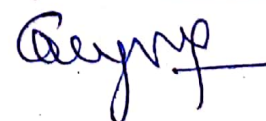


	ensured that at least one station is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	monthly basis covering upwind and downwind direction as well as where maximum ground level concentrations are anticipated. Though the levels are within the limits, frequency of monitoring is inadequate. The undersigned directed to increase the frequency and for that they have agreed.
iv)	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 shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Complied. Following measures are being adopted to control the noise levels: 1) Acoustic enclosure for turbine & DG set are provided. 2) Green belt development (Plantation of dense trees across the boundary and in plant premises) is carried out. 3) Earmuffs are provided to all the employees and are using 4) Noise levels are monitored at five locations during day and night time through external agency and the levels are within the limits. Enclosed as Annexure-10.
v)	The Company shall harvest rainwater from the roof-tops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.	Complied. The PA have developed rain water harvesting arrangement including for the roof top collection and storm water drain.
vi)	The Company shall obtain Authorization for collection, storage and disposal of hazardous waste under the Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and its amendment time to time and prior permission from APPCB shall be obtained for disposal of solid / hazardous waste including boiler ash.	Complied. The PA have obtained Authorization for handling hazardous waste and it is valid up to 31.3.2021.
vii)	During transfer of materials, spillages shall be avoided and gullies drains be constructed to avoid mixing of accidental spillages with domestic wastewater and storm water drains.	Complied. During transfer of materials, spillages are avoided. Separate drains are made to avoid mixing of accidental spillages with domestic water and storm water.
viii)	Usage of Personnel Protection Equipments by all employees / workers shall be ensured.	Complied. Personnel protective Equipments like face shield, Helmets, Rubber Gumboot, Goggles are provided to all employees and are using.
ix)	Training shall be imparted to all	Complied



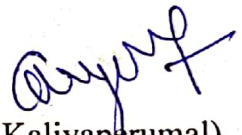
	employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.	As informed by the PA all the employees and workers are provided training on safety and health aspects. Handling instructions and safety precautions are displayed at all visible locations. Pre-Medical tests as well as regular medical check up for all the employees are carried out.
x)	The company shall also comply with all the environmental protection measures and safeguards proposed in the project report submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, risk mitigation measures and public hearing relating to the project shall be implemented.	Complied The PA have implemented all the recommendations made in the EIA/EMP.
xi)	The company shall undertake CSR activities and all relevant measures for improving the socio-economic conditions of the surrounding area.	Complied. The PA informed that the following CSR activities for the development of Socio economic condition of the area has been carried out. 1. Company has given an employment to local people (120 Members in different grades). 2. Rs 2.4 lakh worth donations have been given to the nearby religious holy mandirs. 3. An arrangement of free medical camp in nearby village of Peddavaram was carried out. 4. Provided Lap tops to the village students.
xii)	The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	Complied. As gathered that the PA have organised massive plantation programme in 2015 and in 2016 at Peddavaram Village and planted total of 2300 number of saplings on both sides of village road and factory approach road. The PA have desilted half acre village pond for the usage of villagers and also for the benefit of animals and birds during the summer period.
xiii)	A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.	Complied. The PA have set up an Environment Management Cell equipped with a full-fledged laboratory in their factory premise. The PA monitoring AAQ, stack emissions and effluent quality in

	<p>The company shall earmark sufficient funds for capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management / pollution control measures shall not be diverted for any other purpose.</p>	<p>addition to external laboratory. Complied. The PA have earmarked an amount of Rs.17 Crore to implement the conditions stipulated by the Ministry of Environment and to maintain the environment management and pollution control measures. As informed by the PA they have spent nearly Rs.18.5 Crore as capital cost for following environment management / pollution control measures.</p> <ol style="list-style-type: none"> 1) Construction of ETP and Equipments 2) Construction of MEE section and Equipment 3) Construction of Dryer section and equipment 4) Bag Filter and Stack 5) Ash Handling 6) And Recurring cost of Rs.98.89 lakhs has been spent.
xv)	<p>A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zila Parisad/Municipal Corporation, Urban local Body and the local NGO, if any, from who suggestions / representations, if any, were received while processing the proposal.</p>	<p>Complied. The PA informed that a copy of EC was sent to the concerned authorities.</p>
xvi)	<p>The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the A P Pollution Control Board. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.</p>	<p>Complied. The PA informed that six monthly compliance report(only hard copy not by e-mail) was submitted to the MoEF, RO, CPCB and APPCB. The PA have agreed to submit both copies in future. A copy of Environmental Clearance and six monthly compliance status report are posted on the website of the company as informed.</p>
xvii)	<p>The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the A P Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and</p>	<p>Refer below. Though the PA informed that Form-V was submitted to APPCB, no details were provided during the visit including uploading the Form-V on their company's website.</p>



	shall also be sent to the Bangalore Regional Offices of MoEF by e-mail.	
xviii)	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at http://envfor.nic.in . This shall be advertised within seven days from the date of issue of the clearance letter, atleast 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 concerned Regional Office of the Ministry.	Complied. The PA had given an advertisement in two local newspapers and submitted copies of the same to RO. Copy enclosed as Annexure-11.
xix)	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 the project.	Complied. The date of start of project work was informed to the RO.

This has the approval of the Addl.PCCF(C) vide diary no.637 dated 23.05.2017.


 (Dr.C.Kaliyaperumal)
 Director(S)

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