DETAILED CONDITION COMPLIANCE OF ENVIRONMENT CLEARANCE OF INTEGRATED SUGAR MILL, DISTILLERY & COGENERATION PROJECT OF M/S HPCL BIOFUELS LIMITED, VILL- SUGAULI, DISTT.- EAST CHAMPARAN- 845456 (BIHAR) FOR THE PERIOD: OCT.'2017 TO MAR.'2018

Conditions as per MoEF F. No. J-11011/329/2009-IA II (I)	COMPLIANCE		
A. SPECIFIC CONDITIONS:	COMPLIANCE		
i. The industry shall ensure that the treated effluent and stack emissions from the unit are within 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 restarted until the control measures are rectified to achieve the desired efficiency.	the respective unit will be shut down and will not be restarted until the control measures are rectified to achieve the		



ii.	The particulate emissions from the 110 TPH bagasse fired boiler shall be controlled by installation of electrostatic precipitator and emissions shall be dispersed through stack height as per the CPCB guidelines and conform to the prescribed standards. The emissions from the DG sets shall be dispersed through stack of height as per CPCB standards.	Electrostatic Precipitator is installed to control the particulate emissions. Emissions will be dispersed through Stack of 70 m. height as per the CPCB Guidelines. The emissions from the DG sets will be dispersed through stack of height as per CPCB standards. (Refer Annexure I)
cor clea mo the ser res Pol SO the sus effl cor	The Company shall upload the status of npliance of the stipulated environmental arance conditions, including results of nitored data on its website and shall update same periodically. It shall simultaneously be nt to the Regional office of MOEF, the pective Zonal office of CPCB and the State lution Control Board. The levels of PM10, 2, NOx (ambient levels), emissions from stacks and pH, TDS, BOD, COD, Chloride, spended solids and sulphates in the treated uent shall be monitored and displayed at a nvenient location near the main gate of the npany and at important public places.	HBL is uploading the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on its website and will update the same periodically after commissioning of the project. Arrangements are made to display the emission level & characteristics of effluent at a convenient location near the main gate of the company and at important



 iv. The spent wash generation shall not exceed 500 m³/d.The spent wash after biomethanation in the anaerobic digester shall be concentrated in the multiple effect evaporator and concentrated spent wash shall be composted with press mud. The zero discharge shall be strictly complied with. The distillery shall operate for 270 days and shall not operate during the rainy season. The effluent from the sugar unit and cogeneration power plant and the waste water from washings of the distillery unit shall be treated in the effluent treatment plant and treated effluent after conforming to the prescribed standards shall be used for land irrigation and green belt development. 	The unit is generating 180 m ³ /day of Spent wash. The spent wash after bio- methanation in the anaerobic digester is being concentrated in the multiple effect evaporators and concentrated spent wash is being composted with press mud. The distillery is operating for 270 days maxm. and will not operate during the rainy season. The effluent from the sugar unit and cogeneration power plant and the waste water from washings of the distillery unit are treated in the effluent treatment plant of 700 M ³ /day capacities which operate on activated sludge process followed by extended aeration. Treated effluent after conforming to the prescribed standards is being used for land irrigation and green belt development. No industrial waste water is being discharged outside the project premises to achieve 'Zero Discharge'.
v. The land requirement for compost yard, storage of finished products and lagoon shall be as per the CPCB guidelines. The bagasse from the sugar unit shall be stored in the covered storage.	3 Acres of land is earmarked for concrete yard for Biocomposting. Unit is storing spent wash in an impervious pucca lagoon with proper HDPE lining, with storage capacity of 30 days spent wash generation, to prevent ground water pollution. Bagasse from the sugar mill are stored in the covered shed for further use as boiler fuel.
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, storage of spent wash shall not exceed 30 days capacity. The storage for the treated effluent from the sugar unit shall not	ground water pollution.



vii. Adequate numbers of ground water quality monitoring stations by providing piezometers around the project area and bio-compost yard shall be set up. Sampling and trend analysis monitoring must be made on monthly a basis and report submitted to the RO, MOEF at Bhubaneswar / CPCB/SPCB and this Ministry.	and report will be submitted to the			
viii. Green belt in an area of 34.7 acres 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.	To mitigate the effects of fugitive emissions all around the plant and compost yard, Green belt in an area of 34.7 acres is being developed as per the CPCB guidelines in consultation with the local DFO.			
ix. Company shall adopt rainwater harvesting measures to recharge the ground water.	HBL has adopted rainwater harvesting measures to recharge the ground water.			
x. Fire Fighting System shall be as per the TAC Norms and cover all areas where alcohol is produced, handled and stored.	All the Fire Fighting System provided as per TAC Norms and covers all areas where alcohol is produced handled and stored.			
xi. Provision of foam system for fire fighting to control fire from the alcohol storage tank.	To control fire from the alcohol storage tank, provision are made for foam system for fire fighting			
xii. Risk Assessment shall be carried to assess the fire and explosion risk due to storage of alcohol and report submitted to the Ministry within six months.	Risk Assessment has been done & report will be submitted to the MoEF, Govt. of India, Delhi.			
xiii. The company shall comply with the recommendations made in the EIA/EMP report and during public hearing.	HBL ensures that they are complying with all the recommendations made in EIA/EMP report & during public hearing.			
xiv. 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 medical records of each employee shall be maintained separately.	Occupational health surveillance programme is being undertaken as regular exercise for all the employees. The first aid facilities in the occupational health centre have been provided and the medical records of each employee are being maintained separately.			



xv. Provision shall be made for the housing of construction labour with in the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets and STP, 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.	Provisions have been made for the housing of construction labour at the Project Site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets and STP, safe drinking water, medical health care etc. All housing facilities were in the form of temporary structure & removed after the completion of the project.
B. GENERAL CONDITIONS	
 No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. 	Agreed
ii. Ambient Air Quality Monitoring Stations shall be set up in the down wind direction as well as where maximum ground level concentration of PM10, SO2, NOx, are anticipated in consultation with the State Pollution Control Board.	Ambient Air Quality Monitoring Stations has been set-up in the down wind direction as well as where maximum ground level concentration of PM ₁₀ , SO ₂ , NOx, are anticipated in consultation with the State Pollution Control Board. (Refer Annexure- III)
iii. Adequate number of influent 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.	Adequate number of influent and effluent quality monitoring stations in consultation with the State Pollution Control Board. Regular monitoring is being carried out at our in-house lab for relevant parameters. (Refer Annexure- VI)
iv. The industry shall ensure that the treated effluent and stack emissions from the unit are within 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 restarted until the control measures are rectified to achieve the desired efficiency.	ETP of 350 m ³ /day capacity (For Sugar Mill & Cogeneration Plant), Multieffect evaporators (for distillery unit) & ESP are installed to ensure that treated effluent and stack emissions from the unit are within 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 will be shut down and will not be restarted until the control measures are rectified to achieve the desired efficiency. (Refer Annexure IV)



 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) 	HBL has provided noise control measures including acoustic hoods, silencers, enclosures etc. on all the noise generating sources. (Refer Annexure- V)
vi. A separate environmental management cell equipped with full fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.	A separate environmental management cell equipped with full fledged laboratory facilities is set up to carry out the environmental management and monitoring functions. (Refer Annexure- VI)
vii. The project authorities shall provide requisite funds for both recurring and non- recurring expenditure 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 provided shall not be diverted for any other purpose.	HBL has allocated requisite funds for both recurring and non-recurring expenditure 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 therein. In any case, the funds so provided will not be diverted for any other purpose.
viii. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from who suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	A copy of the clearance letter has been sent to Sugauli Panchayat. The clearance letter will be uploaded on the website of the HBL very shortly.
ix. The implementation of the project vis-à-vis environmental action plans will be monitored by Ministry's Regional Office at Bhubaneswar /State Pollution Control Board/Central Pollution Control Board.	Agreed
X. The project proponent shall also submit six monthly reports on the status of compliance of the stipulated E C 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 State Pollution Control Board.	HBL is submitting six monthly reports on the status of compliance of the stipulated E C conditions including results of monitored data from Oct.'17 to March'18 (both in hard copies as well as by e-mail) to the Regional Office of MoEF at Bhubaneshwar and the State Pollution Control Board. Further Next six monthly reports will be submitted regularly.



xi. The environmental statement for each financial year ending 31 st March in Form-V as is mandated shall be submitted to the concerned State 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 shall also be sent to the Regional Office of MoEF by e- mail.	The environmental statement for each financial year ending 31 st March (2017-18) in Form-V as is mandated will be submitted to the Bihar State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, and also be put on the website of the company along with the status of compliance of environmental clearance conditions and will also be sent to the Regional Office of MoEF by e-mail. (Refer Annexure- VII)
xii. 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 State Pollution Control Board/ Committee and may also be seen at Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within 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.	HBL has published Notice regarding obtaining Environmental Clearance in the two local daily newspapers within seven days from the date of issue of the Clearance letter.
xiii. 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.	The plant is under operation stage.



Annexure- I

STACK EMISSION MONITORING OF

HPCL BIOFUELS LTD.

Integrated Sugar, Ethanol & Co-generation Project

Vill. Sugauli

Dist. East Champaran – 845456

(Monitoring & Analysis done by MoEF Recognized Environmental Laboratory, Shiva Test House, Patna, Bihar)

	Average Concentration for the Period Oct.'17 – Mar.'18		
I. Stack connected to Bagasse 40 TPH (Boiler)			
a. PM, mg / NM ³	55.75		
b. SO ₂ , mg / NM ³	10.10		
c. NO ₂ , mg / NM ³	25.25		
II. Stack connected to DG Set (380 KVA)			
a. PM, mg / NM ³	36.20		
b. SO ₂ , mg / NM ³	21.25		
c. NO ₂ , mg / NM ³	165.65		



Annexure-II

ANALYSIS OF GROUND WATER SAMPLES OF HPCL BIOFUELS LTD. Integrated Sugar, Ethanol & Co-generation Project

Vill. Sugauli

Dist. East Champaran – 845456

(Sampling & Analysis done by MoEF Recognized Environmental Laboratory, Shiva Test House, Patna, Bihar)

Gre	ound Water sample from	UNIT	Oct.'17	Nov.'17	Dec.'17	Jan.'18	Feb.'18	Mar.'18
Tu	bewell No.		1	1	1	1	1	1
1.	Colour	Hazen	<5.00	<5.00	<5.00	<5.00		
2.	рН		7.19	7.14	7.18	7.12		
3.	Turbidity on NTU	NTU	<1.00	<1.00	<1.00	<1.00		
4.	Total Dissolved Solids (TDS)	mg/l.	396.0	38.0	372.0	384.0		
5.	Total Hardness as CaCO ₃	mg/l.	288.0	272.0	244.0	276.0		
6.	Calcium as Ca	mg/l.	57.7	59.3	52.0	54.5		
7.	Magnesium as Mg	mg/l.	35.0	30.1	27.0	34.0		
8.	Iron as Fe	mg/l.	0.18	0.14	0.17	0.13		
9.	Residual Free Chlorine	mg/l.	NIL	NIL	NIL	NIL		
10.	Total Alkalinity as CaCO ₃	mg/l.	312.0	304.0	272.0	312.0		
11.	Chloride as Cl	mg/l.	18.0	16.0	30.0	28.0		
12.	Sulphate as SO ₄	mg/l.	22.7	19.4	22.0	25.4		
13.	Nitrate as NO ₃	mg/l.	3.4	3.1	6.0	4.1		
14.	Fluoride as F	mg/l.	0.15	0.19	0.25	0.18		
15.	Coliform	MPN	NIL	NIL	NIL	NIL		
Gre	ound Water sample from			·				
Tu	bewell No.		2	2	2	2	2	2
1.	Colour	Hazen	<5.00	<5.00	<5.00	<5.00		
2.	рН		7.17	7.23	7.11	7.28		
3.	Turbidity on NTU	NTU	<1.00	<1.00	<1.00	<1.00		
4.	Total Dissolved Solids (TDS)	mg/l.	417.0	407.0	384.0	427.0		
5.	Total Hardness as CaCO ₃	mg/l.	276.0	292.0	268.0	296.0		
6.	Calcium as Ca	mg/l.	59.3	62.5	56.0	49.7		
7.	Magnesium as Mg	mg/l.	31.1	33.0	31.0	41.8		
8.	Iron as Fe	mg/l.	0.15	0.16	0.13	0.19		
9.	Residual Free Chlorine	mg/l.	NIL	NIL	NIL	NIL		
10.	Total Alkalinity as CaCO ₃	mg/l.	308.0	316.0	294.0	316.0		
11.	Chloride as Cl	mg/l.	16.0	18.0	22.0	26.0		
12.	Sulphate as SO ₄	mg/l.	21.4	22.7	16.0	14.8		
13.	Nitrate as NO ₃	mg/l.	3.9	3.6	4.6	3.5		
14.	Fluoride as F	mg/l.	0.13	0.16	0.21	0.14		
15.	Coliform	MPN	NIL	NIL	NIL	NIL	NIL	NIL





MONITORING & ANALYSIS OF AMBIENT AIR QUALITY AT HPCL BIOFUELS LTD. Integrated Sugar, Ethanol & Co-generation Project Vill. Sugauli <u>Dist. East Champaran – 845456</u>

(Monitoring & Analysis done by MoEF Recognized Environmental Laboratory, Shiva Test House, Patna, Bihar)

Month	Parameters	Near Main Gate	Near DM Plant	Near ETP	Avg. Values
	Avera				
	PM ₁₀	50.0	55.5	61.6	55.7
Oct.'17	PM _{2.5}	30.0	35.3	34.8	33.36
	SO ₂	20.5	23.1	26.8	23.46
	NO ₂	26.8	36.3	36.8	33.30
	PM ₁₀	54.2	62.0	68.3	61.5
Nov.'17	PM _{2.5}	26.3	37.0	33.6	32.3
	SO ₂	12.9	21.3	16.1	16.76
	NO ₂	25.9	36.1	31.2	31.06
	PM ₁₀	62.6	56.8	49.7	56.36
Dec.'17	PM _{2.5}	30.8	33.9	24.1	29.6
	SO ₂	11.0	9.6	7.3	5.96
	NO ₂	22.0	16.2	14.0	10.73
	PM ₁₀	67.2	70.4	62.3	66.63
Jan.'18	PM _{2.5}	39.7	41.6	36.8	39.36
	SO ₂	10.3	12.3	8.5	10.36
	NO ₂	28.9	19.4	21.8	23.36
	PM ₁₀				
Feb.'18	PM _{2.5}				
	SO ₂				
	NO ₂				
	PM ₁₀				
Mar.'18	PM _{2.5}				
	SO ₂				
	NO ₂				



Annexure-IV

FINAL TREATED EFFLUENT ANALYSIS REPORT OF HPCL BIOFUELS LTD. Integrated Sugar, Ethanol & Co-generation Project Vill. Sugauli <u>Dist. East Champaran – 845456</u>

(Sampling & Analysis done by MoEF Recognized Environmental Laboratory, Shiva Test House, Patna, Bihar)

Parameters	UNIT	Average Concn. for the period Oct.'17 to Mar.'18
1. рН		7.25
2. Suspended Solids	mg/l.	18.5
3. Total Dissolved Solids	mg/l.	1045.0
4. Oil & Grease	mg/l.	1.5
5. B.O.D.(3 days at 27°C)	mg/l.	24.0
6. C.O.D.	mg/l.	86.0
7. Dissolved Phosphate as P	mg/l.	2.4
8. Ammonical Nitrogen as N	mg/l.	21.8
9. Total Kjeldahl Nitrogen as N	mg/l.	46.45

Annexure- V



AMBIENT NOISE LEVEL MONITORING OF HPCL BIOFUELS LTD. Integrated Sugar, Ethanol & Co-generation Project Vill. Sugauli Dist. East Champaran – 845453

(Monitoring done by MoEF Recognized Environmental Laboratory, Shiva Test House, Patna, Bihar)

SL No	Monitoring Location	Oct.'17	Nov.' 17	Dec.'17	Jan.'18	Feb.'18	Mar.'18
			тм	A of Noise	Level in dE	B(A)	
1	Near Main Gate	61.7	67.4	70.6	73.6		
2	Near Ethanol Plant	53.1	57.2	63.2	65.1		
3	Near Boiler House	63.7	64.1	68.4	66.2		
4	Near ETP	53.1	56.8	59.4	63.4		
5	Near DG Room	70.6	72.1	71.8	72.6		



Annexure- VI

ENVIRONMENT MANAGEMENT LABORATORY REPORT (ETP BOD, COD & TDS Average Value) OF HPCL BIOFUELS LTD. Integrated Sugar, Ethanol & Co-generation Project Vill. Sugauli Dist. East Champaran – 845456

Sugar Unit-

Month	Inlet				Outlet			
wonth	рН	BOD	COD	TSS	рН	BOD	COD	TSS
Dec.2018	6.6	233.38	674.57	273.84	7.32	32.27	181.16	83.94
Jan. 2018	6.68	376.41	858.22	323.08	7.78	27.26	111.86	40.82
Feb. 2018	6.29	417.68	894.62	378.73	7.48	26.26	103.32	26.13
Mar-18	6.16	456.9	1134.37	484.94	7.44	23.65	103.36	22.66



Annexure- VII

FORM – V							
	(See rule 14) Environmental Audit Report for the Financial year ending the 31 st March <u>2018</u> .						
			PART – A				
1.			/ SANJAI DUBE , HPCL BIOFUELS LIMI	TED, SUGAULI, BIHAR			
2.	Industry cate	gory Primary (STC dary (STC Code)	10AACCH2879M1ZG				
3.	Production Ca	apacity- Units	3500 TCD, 60 KLPD, 20 MW				
4.	Year of estab	lishment	2009				
5.		last onmental statement					
	PART – B						
1	1 Water Consumption m ³ /day process						
	Cooling		198	198			
	Domestic		NIL	NIL			
			Water consumption per unit of products				
	Nam	e of Products	During the previous financial year (1)	During the current financial year (2)			
1.	SUGAR		DATA NOT AVAILABLE	0.768 M ³ /TON OF SUGAR			
2.	CO GEN		DATA NOT AVAILABLE	2.46 M ³ /MWH			
2	Raw Material Consumption		Consumption of Raw Material Per unit of output				
N	Name of Raw Name of P Materials		During the previous financial year	During the current financial year			
SUG	AR CANE	SUGAR	94.7 gm/kg of Cane	90.00 gm/kg of cane			
	PART – C						
Pollution Generated (Parameters as specified in the consent issued)							
	Po	ollutant s	Quantity of pollution generated	Percentage of variation from prescribed standards with			



			reasons				
a.	Water	5250 to 7000 M ³ /day	Quality of cane, crush rate				
b.	Air	100 to 140 ppm	Bagasse quality & Quantity				
D.	All		Bagasse quality & Quality				
		PART – D					
	[as specified under Hazardous W	astes (Management	& Handling) Rules, 1989]				
	Hazardous Wastes	Total Quantity					
			(in Kg)				
		During the previous	During the current financial year				
		financial year	intancial year				
a.	From Process	No	No				
b.	From Pollution Control Facilities	No	No				
<i>.</i> .		_					
	PART – E Solid Wastes						
	· · · · · · · · · · · · · · · · · · ·						
	Total Quantity						
		During the previous	During the current financial year				
		financial year	year				
а	From process	12622.22 qtls Fly Ash	16879.10 qtls Fly Ash				
b	From pollution control facility	ESP	ESP				
С	Quantity recycled or re-utilized.	Filling of low land area	Filling of low land area in factory				
-		in factory campus	campus				
		RT – F					
	ase specify the characteristics		• •				
	zardous as well as solid wastes se categories of wastes.	and indicate dispos	al practice adopted for both				
		RT – G					
Imr		-	atural resources and				
	Impact of pollution control measures on conservation of natural resources and consequently on the cost of production.						
By maintaining the pollution control parameters, the quality of treated effluent has improved and we							
are using the same water for the irrigation for our farmers.							
PART – H							
Additional investment proposal for environmental protection including abatement of							
pollution. We are installing micro settler plate system (MSP) for treatment of spray water overflow.							
The Environment (Protection) Rules, 1986 PART – I							
Miscellaneous							
ļ	Any other particulates in respect of environment protection and abatement of pollution.						