



Ref.: ABRPL/EHS/2021/12/04

Date: 17th December, 2021

To,
The Inspector General of Forests (C)
Ministry of Environment, Forest and Climate Change,
Integrated Regional Office,
4th Floor, HOUSEFED Building,
G.S.Road, Rukminigaon,
Guwahati -781022

Sub: **Submission of Half Yearly Compliance report on Environment Stipulation of EC during the period April' 2021 to September' 2021 for Bio Refinery (Bamboo based Ethanol Project).**

Ref. No: 1) F. No. J-11011/274/2015-IA II (I) dated 19th November, 2019
 2) F. No. J-11011/274/2015-IA II (I) dated 05th January, 2021

Dear Sir,

Kindly find enclosed herewith the point wise Half Yearly Compliance Status for the period April' 2021 to September' 2021, pertaining to the conditions of EC for Bio Refinery (Bamboo based Ethanol Project), ABRPL vide letter No F.No.J- 11011/274/2015-IA II (I) dated 19 Nov, 2019 from MoEF& CC.

Thanking You,

Yours faithfully

Sidhartha Sankar Kowndilya
Assistant Manager-EHS,
Assam Bio Refinery Private Limited.

Encl.: 1. Six monthly compliance status of EC conditions.
 2. Results of monitored data.

C.C.to:

1. **The Dy. Director General of Forests (C)**, Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Near MTC Central Workshop, Law-u-sib, Lumbatengen, Shillong - 793021
2. **Central Pollution Control Board Regional Directorate Shillong:** "Tum-Sir". Lower Motinagar, Near Fire Brigade H.Q., Shillong 793014
3. **Assam State Pollution Control Board:** Pollution Control Board Assam, Bamunimaidam, Guwahati - 21
4. **Golaghat Regional Pollution Control Board:** Pollution Control Board, Assam College Tinali, Near Circiut House, Golaghat, PIN: 785621.

S.No	Special Conditions	Remarks as on date status
10 (a)	The final product shall be used only as a bio-fuel and not at all for human consumption	Noted the final product bio-fuel shall be used for blending with petrol.
10 (b)	Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.	The Consent to Establish (CTE) was received from ASPCB dated 25 Jan 2019.
10 (c)	As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged.	Currently the project is under construction phase and hence no liquid waste is being generated. Noted for Compliance.
10 (d)	Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.	Currently the project is under construction phase. Noted for Compliance.
10 (e)	National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608 (E) dated 21st July, 2010 and amended from time to time shall be followed.	Currently the project is under construction phase. Noted for Compliance.
10 (f)	To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.	Currently the project is under construction phase. Noted for Compliance.
10 (g)	Solvent management shall be carried out as follows: <ul style="list-style-type: none"> I. Reactor shall be connected to chilled brine condenser system. II. Reactor and solvent handling pump shall have mechanical seals to prevent leakage. III. The condenser shall be provided with sufficient HTA and residence time so as to achieve more than 95% recovery. IV. Solvents shall be stored in a separate space specified with all safety measures. V. Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. VI. Entire plant shall be flame proof. The solvent storage tanks shall be provided with breath valve to prevent losses. VII. All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation. 	Currently the project is under construction phase. Noted for Compliance.

10 (h)	Total fresh water requirement shall not exceed 2224 cum/day. Prior permission shall be obtained in this regard from the concerned regulatory authority.	Currently the project is under construction phase. Noted for Compliance.
10 (i)	Process effluent/any waste water shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.	Currently the project is under construction phase. Noted for Compliance.
10 (j)	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys, etc. Flame arrester shall be provided on tank farm and the solvent transfer through pumps.	Currently the project is under construction phase. Noted for Compliance.
10 (k)	Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed of to the TSDF.	Currently the project is under construction phase. Noted for Compliance.
10 (l)	The company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle ACT (MVA), 1989.	Currently the project is under construction phase. Noted for Compliance.
10 (m)	Fly ash should be stored separately as per CPCB guidelines so that it should 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 should be avoided.	Currently the project is under construction phase. Noted for Compliance.
10 (n)	The company shall undertake waste minimization measures as below: <ul style="list-style-type: none"> i. Metering and control of quantities of active ingredients to minimize waste. ii. Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. iii. Use of automated filling to minimize spillage. iv. Use of Close Feed System into batch reactors. v. Venting equipment through vapor recovery system. vi. Use of high pressure hoses for equipment clearing to reduce wastewater generation. 	Currently the project is under construction phase. Noted for Compliance.
10 (o)	The green belt of at least 10m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. As many as 25000 trees to be planted per year during first five years. Selection of Plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.	Currently the project is under construction phase. Noted for Compliance.

10 (p)	All the commitment made regarding issues raised during the Public Hearing/Consultation meeting held on 15 July, 2017 shall be satisfactory implemented.	Being Complied.
10 (q)	At least 2.5% of the total project cost shall be allocated for Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry Regional Office. (Original EC condition dated 6 th November 2017 At least 0.5% of the Project Cost shall be allocated for addressing issues raised during the Public hearing and 2% for sustainable babmoo feedstock value chain. Item-wise details along with time bound action plan shall be prepared and submitted to the Ministry Regional Office. (Amended EC condition dated 5 th January 2021)	Being Complied.
10 (r)	For the DG sets, emission limits and the stack height shall be in conformity with the extent regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.	The project is in under construction. There is no usage of DG sets for construction power. The required power is being supplied by NRL.
10 (s)	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefightingsystemshall be as per the norms.	Currently the project is under construction phase and fire fighting systems are being installed as per requirement at offices, porta-cabins and rest sheds. Noted for Compliance.
10 (t)	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	The project is in under construction. The Occupational health surveillance of the workers is undertaken as per BOCW norms.
10 (u)	Continuous online (24x7) monitoring system for stack emission shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet.	Currently the project is under construction phase. Noted for Compliance.
S.NO	General Conditions	Remarks as on date status
10 (i)	The project authorities must strictly adhere to the stipulations made by the State pollution Control Board (SPCB) State Government and/or any other statutory authority.	Being Complied.

10 (ii)	No further expansion or modification in the project shall be carried out without prior approval from the Ministry. 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 environment protection measures required if any.	Noted for Compliance.
10 (iii)	The locations of ambient air quality monitoring stations shall be decided in consultation with the SPCB and it shall be ensured that at least one stations is installed in the upwind and downwind direction as well as where maximum ground level concentration are anticipated.	Being complied. The locations of ambient air quality monitoring stations is decided in consultation with ASPCB officials in April 2019 and the same locations are being taken as monitoring points till date.
10 (iv)	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826 (E) date 16th November, 2009 shall be complied with.	Being complied. Report attached.
10 (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 shall conform to the standards prescribed under PARA Rules,1989 viz. 75 dBA(day time) and 70 dBA (night time).	Currently the project is under construction phase. Noted for Compliance.
10 (vi)	The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial operations within the plant.	Currently the project is under construction phase. Noted for Compliance.
10 (vii)	Training shall be imparted to all 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.	Noted for compliance. Pre-employment and routine periodical medical examinations for all employees is being complied as per BOCW norms.
10 (viii)	The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, risk mitigation measures and public hearing shall be implemented.	Noted for Compliance.
10 (ix)	The company shall undertake all measures for improving socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villagers, administration and other stake holders. Also eco-developmental measures shall be undertaken for overall improvement of the environment.	Noted for Compliance.
10 (x)	A separate Environmental Management Cell equipped with full-fledged laboratory facilities must be setup to carry out the environmental management on monitoring	Currently the project is under construction phase. Noted for Compliance.

	functions.	
10 (xi)	The company shall earmark sufficient funds towards 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.	Noted for Compliance.
10 (xii)	A copy of 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 whom suggestion/representation if, any, were received while processing the proposal.	Complied.
10 (xiii)	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&CC, the respective Zonal office of CPCB and SPCB. A copy of Environmental Clearance and six Monthly compliance status report shall be posted on the website of the company.	Being Complied. Six monthly report on status of compliance of the stipulated environmental conditions including the results of monitored data report submitted to MoEF&CC, the respective Zonal office of CPCB and SPCB and posted in company website.
10 (xiv)	The environmental statement for each financial year ending 31 st March in Form-V as is mandated to be submitted by the project proponent 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 conditions and shall also be sent to the respective Regional Offices of the MoEF by e-mail.	Being Complied.
10 (xv)	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://moef.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 locally concerned and a copy of the same shall be forwarded to the Regional Office of the Ministry.	Being Complied. Public notice was published on 18.11.2017 in DainikJanambhumi , Pratidin, Assam Tribune and Sentinel. Copy of the notice published sent to MoEF RO on 29.11.2017

Report No.: ENV/ABRPL/EM/21-22/AA-01

Date : 06/10/2021

Report Issued To : **ASSAM BIO REFINERY PRIVATE LIMITED**
Numaligarh, Dist. – Golaghat (Assam)**AMBIENT AIR QUALITY TEST RESULTS**

Sl. No.	LOCATION(S) ↓	Date of Sampling	PM 2.5 (µg/m ³)	PM 10 (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)
	LIMIT(S) →	---	60	100	80	80
01	Near Labour Rest Shed (ABRPL Project Campus West Side)	23.09.2021	22.7	51.9	5.8	7.1
02	Near Electric Sub-Station (ABRPL Project Campus East Side)	23.09.2021	26.4	55.2	6.1	7.6
03	Near Rajabari Village (ABRPL Project Campus North Side)	23.09.2021	15.8	40.2	BDL	BDL

Analysis Protocol: IS 5182

BDL: Below Detectable Limit



Checked By: Mr. Pankaj Baroi, ENVIROCON

- NOTE:**
1. Results reported are valid at the time of and under the prevailing conditions of measurement.
 2. Results refer only to the particular parameters tested.
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Report No.: ENV/ABRPL/EM/21-22/N-01

Date : 06/10/2021

Report Issued To : **ASSAM BIO REFINERY PRIVATE LIMITED**
Numaligarh, Dist – Golaghat (Assam)

NOISE LEVEL MEASUREMENT RESULTS

Sl. No.	Location(s)	Date Of Measurement	Result(s) (Day Time)		Result(s) (Night Time)	
			L _{eq} (dB-A)	Limit (dB-A)	L _{eq} (dB-A)	Limit (dB-A)
1	Near Piling Job of Tank Stand Area at ABRPL Project Site (South- West Side)	23.09.2021	67.6	75	52.5	70
2	Near Piling Job of Tank Stand Area at ABRPL Project Site (East Side Near Sub-Station)	23.09.2021	69.4	75	55.1	70
3	Near Rajabari Village (ABRPL Project Campus North Side)	23.09.2021	51.4	75	35.2	70



Checked By: Mr. Pankaj Baroi, ENVIROCON

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Report No.: ENV/ABRPL/EM/21-22/WQ-01
Date : 06/10/2021

Report Issued To : **ASSAM BIO REFINERY PRIVATE LIMITED**
Numaligarh, Dist. – Golaghat (Assam)

GROUND WATER ANALYSIS RESULTS

Sample Ref. No. : ABRPL/21-22/WQ-09/01
Collected On : 23-09-2021

Sample Source : Deep Tube Well, ABRPL
Received On : 23-09-2021

Sample Type : Ground Water
Collected By : ENVIROCON & Client

Sl. No.	Parameters	Results	Desirable Limit (IS:10500:2012)
01	Colour, Hazen Units, Max	2	5
02	Odour	Odourless	Agreeable
03	Taste	Acceptable	Agreeable
04	Turbidity, NTU, Max	0.8	1.0
05	pH	6.71	6.5 – 8.5
06	Total Dissolved Solids, mg/l, Max	114	500
07	Aluminium (as Al), mg/l, Max	ND	0.03
08	Boron (as B), mg/l, Max	ND	0.5
09	Calcium (as Ca), mg/l, Max	32	75
10	Chloride (as Cl), mg/l, Max	18	250
11	Copper (as Cu), mg/l, Max	ND	0.05
12	Fluorides (as F), mg/l, Max	0.3	1.0
13	Free Residual Chlorine, mg/l, Min	ND	0.2
14	Iron (as Fe), mg/l, Max	0.23	0.3
15	Magnesium (as Mg), mg/l, Max	3	30
16	Manganese (as Mn), mg/l, Max	ND	0.1
17	Zinc (as Zn), mg/l, Max	ND	5.0
18	Nitrate (as NO ₃), mg/l, Max	5.1	45
19	Phenolic Compounds (as C ₆ H ₅ OH), mg/l, Max	ND	0.001
20	Sulfate (as SO ₄), mg/l, Max	80	200
21	Total Alkalinity (as CaCO ₃), mg/l, Max	46	200
22	Total Hardness, (as CaCO ₃), mg/l, Max	78	200
23	Cyanide (as CN), mg/l, Max	ND	0.05
24	Lead (as Pb), mg/l, Max	ND	0.01
25	Total Arsenic (as As), mg/l, Max	ND	0.01
26	Total Chromium, (as Cr), mg/l, Max	ND	0.05
27	E. Coli / 100 ml	Absent	Absent
28	Faecal Coliform	Absent	Absent

Analysis Protocol: IS 3025
ND: Not Detected



Checked By: Mr. Pankaj Baroi, ENVIROCON

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