



ब्रह्मपुत्र क्रैकर एंड पॉलिमर लिमिटेड

(भारत सरकार का उपक्रम)

Brahmaputra Cracker and Polymer Limited

(A Govt. of India Enterprise)

An ISO Certified Company (ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018)

Ref.: BCPL/ENV/LETTER/EC-2024/ 800

To,

Dr. Hemen Hazarika

Scientist -D/ Joint Director, MoEF&CC

Ministry of Environment and Climate Change

Integrated Regional Office Guwahati

4th Floor, Housefed Building, G.S. Road

Rukmini Gaon, Ghy- 781022

Sub.: Submission of Six-Monthly Compliance Report of M/s BCPL.

Dear Sir,

Please find attached herewith six-monthly compliance report of June-2024 on environment clearance stipulations for M/s Brahmaputra Cracker and Polymer Limited, Dibrugarh, Assam including the new projects HPG-2 & Butene-1 for your kind perusal.

Thanking you,

Yours sincerely,

(Anay Burde)

GM (Chemical)

Best Company of the Year
INDIA'S
2022
Brahmaputra Cracker & Polymer Limited
(A Govt. of India Enterprise)
Lepetkata, Dibrugarh (Assam)

Encl.: (i) Compliance Report along with Annexure-I, II, III & IV
(ii) Soft Copy of Compliance Report in CD.

CC:

For kind information of:

- Scientist 'E' & Regional Director, Zonal Office Shillong, Central Pollution Control Board, Shillong, Meghalaya.
- Regional Executive Engineer, Regional Office, Pollution Control Board, Dibrugarh, Assam.

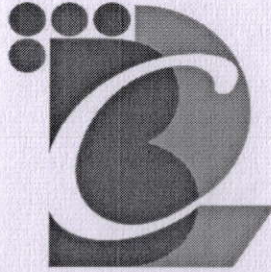
पंजीकृत कार्यालय: प्रथम तल, मकान संख्या- 6,
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सीआईईन / CIN: U11101AS2007GOI008290

Website: www.bcplonline.co.in



**BRAHMAPUTRA CRACKER AND POLYMER
LIMITED**

**SIX MONTHLY COMPLIANCE
REPORT (June-2024)**

BCPL



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

SIX MONTHLY COMPLIANCE REPORTS (June -2024) OF ENVIRONMENTAL CLEARANCE OF M/S BRAHMAPUTRA CRACKER AND POLYMER LIMITED

Sl. No.	A. SPECIFIC CONDITIONS:
1	The gaseous emissions (SO₂, NO_x, and HC) <u>from</u> the various process units should confirm to the standards prescribed under Environment (Protection) Act, 1986 or norm stipulated by the SPCB whichever is more stringent. At no time, the emission level should go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency. <u>Compliance status:</u> The process units are designed in such a way to meet the prescribed standards. The gaseous emissions from process plant, ambient air quality, analysis report of liquid effluent and noise level for reporting period is attached as Annexure-I.
2	Adequate number of ambient air quality monitoring stations (SPM, SO₂, NO_x and HC) should be set up in the petrochemical complex in consultation with SPCB, based on the concurrence of maximum ground level concentration and downwind direction of wind. The monitoring network must be decided based on the modelling exercise to represent short term GLCs. Continuous online stack monitoring equipment should be installed for measurement of SO₂ and NO_x. The company should install low NO_x burners in cracker furnaces, bag filters in the polymer plant and steam injection for smokeless flaring. Stack heights of 45mt for cracking plant and 60mt height for boilers in crackers should be provided for dispersion of pollutants. <u>Compliance status:</u> Continuous online monitoring for ambient air is available where the values of SO₂, NO_x, PM₁₀ & PM_{2.5} are shown on (24x7) basis and connected to CPCB server. Ambient Air Qualities are also being monitored in four locations at BCPL Lepetkata, two locations at BCPL Lakwa, one location at BCPL GDU & CS Duliajan and one location at BCPL Railway Siding by MoEF & CC approved laboratory. Moreover Continuous Online Stack Analyzers are also available where the values of PM, SO₂, NO_x & CO are shown on (24x7) basis for continuous monitoring and connected to the CPCB server. Low NO_x Burners are incorporated wherever applicable in process units. Steam injection is also available for smokeless flaring. Height of each stack attached to heater in cracking plant is 52.5 mt and height of each stack for boiler in Captive Power Plant is 66 mt.
3	Liquid effluent (2900 m³/d) generated from the various sources should be treated comprehensively to conform to the load-based standards and concentration limits prescribed under Environment (Protection) Act, 1986 rules (MINAS standards). A unit level treatment facility should be provided to treat the concentrated waste streams such as polymer powder remover and spent caustic. The combined wastewater after treatment for specific pollutants should be treated in the central waste water treatment facility to meet the State Pollution Control Board norms before discharging into the river through a



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	closed pipeline at a point where sufficient dilution is available. The company must undertake maximum recycling/reusing of the treated effluent for process purpose in addition to green belt development and also adopt adequate water conservation measures. <u>Compliance status:</u> A Modern Effluent Treatment Plant (ETP) is functional at BCPL, Lepetkata Petrochemical Complex to meet the specified limits prescribed under Environment (Protection) Act, 1986 rules. There is no polymer powder waste generated from Polymerization units i.e. LLDPE/HDPE and PP Units, however polymer powder is an intermediate product from which LLDPE & PP produce as final products. Spent Caustic Treatment System is available prior to Effluent treatment plant (ETP). Hydrocarbon Condensate mixed with waste water from GDU & CS-Duliajan and Railway Siding facilities are periodically shifted to ETP of BCPL, Lepetkata Main Plant by tanker for treatment. Treated water is discharged to Brahmaputra river through a dedicated pipeline after meeting the SPCB Norms and guidelines. Diffuser is also installed at end of effluent discharge pipe at Brahmaputra River for proper dilution of treated water. A portion of the treated water is also being recycled to fire water network & greenbelt development. Further BCPL has one natural Eco Pond in its premises which acts as an conservatory of rain water as a part of water conservation.
4	The company should take steps to control escaping of polymer fines and mixing in effluent as well as other pollutants in the effluent streams. The polymer fines should be recovered from the effluent stream and the treated effluent should be monitored regularly before discharging into the river to prevent the harmful impact on aquatic flora and fauna. <u>Compliance status:</u> Process plant has been designed in such a way that polymer fines remain in closed loop. The area of the plant handling polymer fines has a separate network of underground piping system called Polymer Water Sewage (PWS). All the water carrying polymer fines from different areas like PCW tank overflow line, PCW coolers, other pellet handling areas etc. goes to the said PWS system which finally accumulates in the PWS Pit inside the respective unit. PWS pit is open to atmosphere and all the accumulated fines keeps floating on the surface. This pit is being cleaned regularly by removing all the floating fines which in-turn are dried and sold as Ground Sweep Polymer fines under Finished Goods FG-02 category. PWS pit is designed in several compartments and the process is such that only clean water from the pit will be released to ETP and further treated effluents are monitored regularly before discharging into the river to prevent the harmful impact on aquatic flora and fauna.
	The solid waste generated in the form of spent catalyst should be supplied to the



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5	outsiders. The ETP sludge and molecular sieve dehydrator spent media should be disposed of in the secured landfill within the plant premises. The landfill site should be suitably designed with the approval of the SPCB, as the water table in the area is quite high. Landfill site should be ready along with commissioning of the project. The ground water quality around the landfill site should be monitored regularly and data submitted to the Ministry and CPCB. <u>Compliance status:</u> The solid wastes generated in BCPL are being disposed off to CPCB / SPCB approved authorized agencies only as and when generated. Also in house bio-remediation facility developed at ETP for treatment of chemical sludge generated at ETP which is in full operation at present. Construction of the secure landfill is under progress and ground water quality around the landfill site will be monitored regularly as a part of statutory compliance. Once landfill is ready to use, data will be submitted to the MoEF & CC and CPCB accordingly. However presently ground water qualities are being monitored at different locations by MoEF & CC approved laboratory as well as by NABL accredited laboratory of BCPL.
6	The company should implement the Relief and Rehabilitation package approved by Govt. of Assam vide its order no. RLA.221/94/219, dated 28th November, 2002. An amount of Rs. 24 crores should be separately earmarked for implementation of R&R plan. <u>Compliance status:</u> Total 66 nos. of families were displaced for setting up M/s Brahma Putra Cracker and Polymer Limited at Lepetkata, Dibrugarh. 52 bighas of land (the cost of the land was borne by BCPL) was allotted for rehabilitation of the displaced families in which they have built their dwelling houses presently occupied by them. Certificate of completion of rehabilitation is attached as Annexure-II.
7	Green belt of 50m width in an area of 140 ha. Should be developed as per the CPCB guidelines. Attached as Annexure-III
8	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act and the West Bengal Factories rules. <u>Compliance status:</u> Health check-up is conducted for BCPL employees as well contract workers as per the Factories Act.
B. GENERAL CONDITIONS:	
1	The project authorities must strictly adhere to the stipulation made by the Assam Sate Pollution Control Board and the State Government. <u>Compliance status:</u> BCPL is strictly following all the stipulations made by the Pollution Control



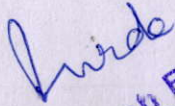
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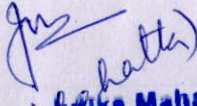
	Board, Assam, and the State Government.
2	No further expansion or modification in the plant should be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of condition imposed to add additional environmental protection measures required, if any. <u>Compliance status:</u> Noted.
3	The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous chemicals Rules, 1989 as amended on 3rd October, 1994 and 6th January, 2000. Prior approval from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained wherever applicable. <u>Compliance status:</u> All O&M activities are being undertaken in compliances of OISD, PESO, MSIHC, CIF, PCB etc. guidelines only wherever applicable.
4	The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management & Handling) Rules, 1989 as amended in January, 2000, wherever applicable. Authorization from the State Pollution Control Board must be obtained for collections/treatment/storage/ disposal of hazardous wastes. <u>Compliance status:</u> Noted. Hazardous waste authorization are in line for all the site of BCPL i.e. Lepetkata, Duliajan, Lakwa and Railway siding.
5	The overall noise levels in and around the rig area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencer, 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). <u>Compliance status:</u> Plant is designed to keep the overall Noise Levels within the standards. Personal protective equipment (PPEs) by operating personnel as per requirement and different measures like acoustic hood, silencers and enclosures etc. are available. Ambient noise levels are attached at Annexure-I.
6	A separate environmental management cell equipped with full-fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions. <u>Compliance status:</u> Environmental Management Cell and NABL accredited Laboratory Department

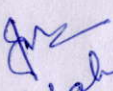


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	are functional at BCPL.
7	The project authorities will provide adequate fund for both recurring and non-recurring expenditure to implement the conditions stipulated by the Ministry of Environment and Forest as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purpose. <u>Compliance status:</u> Attached as Annexure-IV
8	The implementation of the project vis-à-vis environmental action plans will be monitored by Ministry's Regional Office at Shillong, State Pollution Control Board/Central Pollution Control Board. A six monthly compliance status report should be submitted to the monitoring agencies. <u>Compliance status:</u> Six Monthly Compliance Reports are submitted to MoEFCC- Regional Office Shillong, Meghalaya; CPCB Zonal Office, Shillong, Meghalaya and Pollution Control Board- Assam.
9	The Project Proponent should 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 should 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 should be forwarded to the regional office. <u>Compliance status:</u> Complied.


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J. Mahatta



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Annexure-I

Stack Monitoring Data from Dec 2023 to May 2024

BCPL Lepetkata

SO₂Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Stack attached to Furnace-1	SO ₂ =50 mg/Nm ³	ND	ND	ND
Stack attached to Furnace-2		ND	ND	ND
Stack attached to Furnace-3		ND	ND	ND
Stack attached to Furnace-4		ND	ND	ND
Stack attached to Thermal Oxidiser		ND	ND	ND
GSU Regeneration Gas Heater Stack		ND	ND	ND
Stack attached to HRSG1		ND	ND	ND
Stack attached to HRSG2		ND	ND	ND
Stack attached to UB1		ND	ND	ND

Nox Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Stack attached to Furnace-1	NO _x =250 mg/Nm ³	17.3	18.6	17.95
Stack attached to Furnace-2		19.8	19.8	19.8
Stack attached to Furnace-3		20.1	20.1	20.1
Stack attached to Furnace-4		22.3	26.5	24.4
Stack attached to Thermal Oxidiser		20.1	26.7	23.4
GSU Regeneration Gas Heater Stack		23.8	25.7	24.75
Stack attached to HRSG1		26.8	27.1	26.95
Stack attached to HRSG2		22.8	29.5	26.15
Stack attached to UB1		27.4	32.5	29.95

CO Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Stack attached to Furnace-1	CO=100	21.8	22.4	22.1



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Stack attached to Furnace-2	mg/Nm ³	25.6	25.6	25.6
Stack attached to Furnace-3		23.4	23.4	23.4
Stack attached to Furnace-4		26.1	28.3	27.2
Stack attached to Thermal Oxidiser		28.6	33.4	31
GSU Regeneration Gas Heater Stack		31.6	34.1	31.85
Stack attached to HRSG1		30.1	30.2	3.15
Stack attached to HRSG2		28.1	34.1	31.1
Stack attached to UB1		28.9	30.1	29.5

PM Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Stack attached to Furnace-1	PM=5 mg/Nm ³	ND	ND	ND
Stack attached to Furnace-2		ND	ND	ND
Stack attached to Furnace-3		ND	ND	ND
Stack attached to Furnace-4		ND	ND	ND
Stack attached to Thermal Oxidiser		ND	ND	ND
GSU Regeneration Gas Heater Stack		ND	ND	ND
Stack attached to HRSG1		ND	ND	ND
Stack attached to HRSG2		ND	ND	ND
Stack attached to UB1		ND	ND	ND

Stack Monitoring Data from Dec 2023 to May 2024

BCPL GDU &CS, Duliajan

SO₂ Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Reboiler Stack	SO ₂ =50 mg/Nm ³	ND	ND	ND
Gas Turbine-1 Stack		ND	ND	ND
Gas Turbine-2 Stack		ND	ND	ND
Gas Engine Generator Stack		ND	ND	ND

J. Mahanta

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Nox Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Reboiler Stack	NOx=250 mg/Nm ³	18.1	19.6	18.85
Gas Turbine-1 Stack		20.1	20.2	20.15
Gas Turbine-2 Stack		21.6	23.3	22.45
Gas Engine Generator Stack		19.6	21.7	20.65

CO Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Reboiler Stack	CO=100 mg/Nm ³	23.4	23.9	23.65
Gas Turbine-1 Stack		28.6	29.4	29.00
Gas Turbine-2 Stack		30.2	31.2	30.7
Gas Engine Generator Stack		23.5	24.3	23.9

PM Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Reboiler Stack	PM=5 mg/Nm ³	ND	ND	ND
Gas Turbine-1 Stack		ND	ND	ND
Gas Turbine-2 Stack		ND	ND	ND
Gas Engine Generator Stack		ND	ND	ND

Note: ND-Not Detectable

Stack Monitoring Data from Dec 2023 to May 2024

BCPL, Lakwa

SO₂ Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max	Average
Reboiler Stack1	SO ₂ =50 mg/Nm ³	ND	ND	ND
Gas Turbine-1 Stack		ND	ND	ND



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Regeneration Gas Heater Stack		ND	ND	ND
DG Set	SO ₂ - gm/kw-hr	0.015	0.017	0.032

NO_x Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Reboiler Stack1	NO _x =250 mg/Nm ³	18.9	20.4	19.65
Gas Turbine-1 Stack		24.1	27.6	25.85
Regeneration Gas Heater Stack		18.6	22.8	20.7
DG Set	NO _x +HC≤4.0 gm/kw-hr	0.1	0.1	0.1

CO Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max.	Average
Reboiler Stack1	CO=100 mg/Nm ³	24.6	24.9	24.75
Gas Turbine-1 Stack		28.7	30.1	29.4
Regeneration Gas Heater Stack	CO=100 mg/Nm ³	23.1	28.6	25.85
DG Set	CO≤3.5 gm/kw-hr	0.060	0.062	0.061

PM Emission (mg/Nm³)

Stacks	Emission Standard	Observed Value		
		Min.	Max	Average
Reboiler Stack1	PM=5 mg/Nm ³	ND	ND	ND
Gas Turbine 1 Stack		ND	ND	ND
Regeneration Gas Heater Stack		ND	ND	ND
DG Set	PM≤0.2 gm/kw-hr	0.028	0.029	0.0285

Note: ND-Not Detectable

*for
(J. Mahanta)*



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

Stack Monitoring Data from Dec 2023 to May 2024

BCPL Railway Siding:

NOx Emission (mg/Nm³)

Stack	Emission Standard	Observed Value		
		Min.	Max	Average
DG Set Stack	NOx=710 mg/Nm ³	27.6	28.6	28.1

CO Emission (mg/Nm³)

Stack	Emission Standard	Observed Value		
		Min.	Max	Average
DG Set Stack	CO=150 mg/Nm ³	48.1	49.2	48.65

PM Emission (mg/Nm³)

Stack	Emission Standard	Observed Value		
		Min.	Max	Average
DG Set Stack	PM=75 mg/Nm ³	41.3	41.8	41.55

NMHC as C Emission (mg/Nm³)

Stack	Emission Standard	Observed Value		
		Min.	Max	Average
DG Set Stack	NMHC as C=100 mg/Nm ³	10.1	10.2	10.15

Effluent after Treatment (ETP Outlet) Monitoring Data from Dec 2023 to May 2024

BCPL Lepetkata

Sl. No.	Parameters	Standard as per PCB, Assam and IS 2490 (Pt-I)	Min.	Max.	Avg.
1.	pH	6.5 – 8.5	7.36	7.56	7.46
2.	Temperature	400C	24.3	25.2	24.8
3.	Total Suspended Solids	100 mg/l	30	35	32.5
4.	Oil & Grease	10 mg/l	<1.0	<1.0	<1.0
5.	COD (as O ₂)	250 mg/l	102	120	111.0

(J. Mahanta)



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

6.	BOD (@270 C for 3 days)	50 mg/l	24	28	26.0
7.	Sulphides (as S)	2 mg/l	<1.0	<1.0	<1.0
8.	Chloride (as Cl)	1000 mg/l	380	391	385.5
9.	Ammonical nitrogen (as N)	50mg/l	<0.1	<0.1	<0.1
10.	Phenolic Compounds (as C ₆ H ₅ OH)	5 mg/l	<0.001	<0.001	<0.001
11.	Free Ammonia (as NH ₃)	5 mg/l	<0.1	<0.1	<0.1
12.	Total Kjeldahl Nitrogen (as NH ₃)	100 mg/l	14.2	15.3	14.75

Effluent after Treatment (ETP Outlet) Monitoring Data from Dec 2023 to May 2024

BCPL Lakwa

Sl. No.	Parameters	Standard as per PCB, Assam and IS 2490 (Pt-I)	Min.	Max.	Avg.
1.	pH	6.5 – 8.5	7.26	7.56	7.41
2.	Temperature	400C	23.8	24.8	24.3
3.	Total Suspended Solids	100 mg/l	29	34	31.5
4.	Oil & Grease	10 mg/l	1.2	1.5	1.35
5.	COD (as O ₂)	250 mg/l	79.8	98.9	89.35
6.	BOD (at 270C for 3 days)	50 mg/l	21	26	23.5
7.	Sulphides (as S)	2 mg/l	<0.1	<0.1	<0.1
8.	Chlorides (as Cl)	1000 mg/l	402	429	415.5
9.	Ammonical nitrogen (as N)	50mg/l	7.72	8.61	8.16
10.	Phenolic Compounds (as C ₆ H ₅ OH)	5 mg/l	<0.001	<0.001	<0.001
11.	Free Ammonia (as NH ₃)	5 mg/l	<0.1	<0.1	<0.1
12.	Total Kjeldahl Nitrogen (as NH ₃)	100 mg/l	10.6	12.3	11.45

Storm water Monitoring Data from Dec 2023 to May 2024

BCPL Lepetkata

Sl. No.	Parameters	Standard as per PCB, Assam and IS2490 (Pt-I)	Min.	Max.	Avg.
1.	pH	6.5 – 8.5	7.19	7.44	7.315
2.	Temperature	400C	25.2	26.1	25.65
3.	Total Suspended Solids	100 mg/l	21	26	23.5
4.	Oil & Grease	10 mg/l	<1.0	<1.0	<1.0
5.	COD (as O ₂)	250 mg/l	50.2	55.8	53

(J. Neahalla)



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

6.	BOD (@270C for 3 days)	50 mg/l	7	10	8.5
7.	Sulphides (as Cl)	2 mg/l	<0.1	<0.1	<0.1
8.	Chloride (as Cl)	1000 mg/l	28.9	36.2	32.55
9.	Ammonical Nitrogen (as N)	50mg/l	<0.1	<0.1	<0.1
10.	Phenolic Compounds (as C ₆ H ₅ OH)	5 mg/l	<0.001	<0.001	<0.001
11.	Free Ammonia (as NH ₃)	5 mg/l	<0.1	<0.1	<0.1
12.	Total Kjeldahl Nitrogen (as NH ₃)	100 mg/l	7.62	8.3	7.96

Storm water Monitoring Data from Dec 2023 to May 2024

BCPL Lakwa

Sl. No.	Parameters	Standard as per PCB, Assam and IS2490 (Pt-I)	Min.	Max.	Avg.
1.	pH	6.5 – 8.5	6.97	7.22	7.09
2.	Temperature	400C	23.4	24.1	38.8
3.	Total Suspended Solids	100 mg/l	20.0	24.0	22.0
4.	Oil & Grease	10 mg/l	<1.0	<1.0	<1.0
5.	COD (as O ₂)	250 mg/l	<10	<10	<10
6.	BOD (@270C for 3 days)	50 mg/l	<1.0	<1.0	<1.0
7.	Sulphides (as Cl)	2 mg/l	<0.1	<0.1	<0.1
8.	Chloride (as Cl)	1000 mg/l	71.5	89.2	80.2
9.	Ammonical Nitrogen (as N)	50mg/l	<0.1	<0.1	<0.1
10.	Phenolic Compounds (as C ₆ H ₅ OH)	5 mg/l	<0.001	<0.001	<0.001
11.	Free Ammonia (as NH ₃)	5 mg/l	<0.1	<0.1	<0.1
12.	Total Kjeldahl Nitrogen (as NH ₃)	100 mg/l	3.6	4.0	3.8

Ambient Air Quality Analysis from Dec 2023 to May 2024

BCPL Lepetkata

Parameters	Locations Name			
	At Energy Gate	At RWTP Control Room	At Sub Station-8	BHEL Site near CISF camp
PM10 (Std.-100µg/m ³)				
Min.	56.3	52.7	51.3	52.8
Max.	70.3	71.2	70.8	69.3
Avg.	62.77	61.43	61.92	61.91

(J. Mahanta)



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

PM2.5 (Std.-60 µg/m ³)				
Min.	19.4	18.6	20.2	19.0
Max.	30.5	29.5	30.6	28.4
Avg.	24.60	23.60	24.67	23.51
SO ₂ (Std.-80 µg/m ³)				
Min.	8.92	10.2	10.1	8.96
Max.	16.8	17.5	16.1	15.4
Avg.	13.01	13.32	12.77	12.53
NO ₂ (Std.-80 µg/m ³)				
Min.	9.26	9.62	9.88	8.92
Max.	17.6	21.4	20.4	17.5
Avg.	13.89	15.72	15.06	13.62
CO (Std.-2 mg/m ³ one hourly basis)				
Min.	<0.05	<0.05	<0.05	<0.05
Max.	<0.05	<0.05	<0.05	<0.05
Avg.	<0.05	<0.05	<0.05	<0.05

Note: ND-Not Detected

Ambient Air Quality Analysis from Dec 2023 to May 2024

BCPL Lakwa

Parameters	At Lab Building	At Main Control Room
PM ₁₀ (Std.-100µg/m ³)		
Min.	51.5	50.7
Max.	64.8	67.5
Avg.	57.43	57.10
PM _{2.5} (Std.-60 µg/m ³)		
Min.	18.1	17.6
Max.	28.9	27.6
Avg.	23.52	23.38
SO ₂ (Std.-80 µg/m ³)		
Min.	10.1	9.62
Max.	16	15.4
Avg.	13.03	13.04
NO ₂ (Std.-80 µg/m ³)		
Min.	9.65	10.3
Max.	18.2	17.6
Avg.	14.30	14.73
CO (Std.-2 mg/m ³ one hourly basis)		
Min.	<0.05	<0.05
Max.	<0.05	<0.05
Avg.	<0.05	<0.05

(J. Mahathy)



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

Ambient Air Quality Analysis from Dec 2023 to May 2024

BCPL GDU & CS, Duliajan

Parameters	At Canteen Building
PM10 (Std.-100µg/m3)	
Min.	56.1
Max.	65.8
Avg.	60.70
PM2.5 (Std.-60 µg/m3)	
Min.	20.1
Max.	29.8
Avg.	24.24
SO2 (Std.-80 µg/m3)	
Min.	10.4
Max.	16.7
Avg.	13.26
NO2 (Std.-80 µg/m3)	
Min.	10.2
Max.	20.1
Avg.	14.89
CO (Std.-2 mg/m3 one hourly basis)	
Min.	<0.05
Max.	<0.05
Avg.	<0.05

Ambient Air Quality Analysis from Dec 2023 to May 2024

BCPL Railway Siding

Parameters	At Fire Water Pump House
PM10 (Std.-100µg/m3)	
Min.	57
Max.	67.5
Avg.	61.45
PM2.5 (Std.-60 µg/m3)	
Min.	19.4
Max.	27.3
Avg.	23.13
SO2 (Std.-80 µg/m3)	
Min.	9.8
Max.	15.6
Avg.	12.45
NO2 (Std.-80 µg/m3)	

for
O. Mahanta



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

Min.	10.6
Max.	21.5
Avg.	16.05
CO (Std.-2 mg/m ³ one hourly basis)	
Min.	<0.05
Max.	<0.05
Avg.	<0.05

Noise Monitoring Data from Dec 2023 to May 2024

BCPL - Lepetkata

Sl. No	Locations Name	Min.	Max.	Avg.
Day Time(Std.-75 db(A))				
1.	Near Energy Gate	63.7	71.5	67.02
2.	Near Substation-8	62.4	71.2	66.9
3.	Near RWTP Control Room	63.2	70.2	66.93
4.	Near BHEL Site	61.8	70.5	66.43
Night Time(Std.-70 db(A))				
1.	Near Energy Gate	56.3	65.9	60.05
2.	Near Substation-8	56.8	64.3	60.09
3.	Near RWTP Control Room	54.1	63.5	59.68
4.	Near BHEL Site	55.1	62.8	59.11

Noise Monitoring Data from Dec 2023 to May 2024

BCPL - Lakwa

Sl. No	Locations Name	Min.	Max.	Avg.
Day Time (Std.-75 db(A))				
1.	Near Main Control Room	63.1	70.6	67.42
2.	Near Lab.	61.6	71.3	66.74
Night Time (Std.-70 db(A))				
1.	Near Main Control Room	55.3	63.9	59.13
2.	Near Lab.	51.8	62.4	57.56

Noise Monitoring Data from Dec 2023 to May 2024

BCPL - Duliajan

Sl. No	Location Name	Min.	Max.	Avg.
1.	Near Canteen Building(Day Time)	63.1	70.2	67.19

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(J. Mahanta)



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

	(Std.-75 db(A))			
2.	Near Canteen Building(Night Time) (Std.-70 db(A))	52.7	61.2	56.89

Noise Monitoring Data from Dec 2023 to May 2024

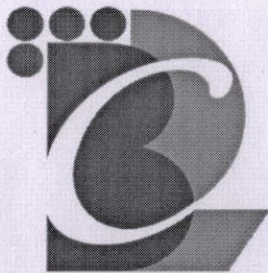
BCPL – Railway Siding

Sl. No	Location Name	Min.	Max.	Avg.
1.	Near Fire Water Pump House (Day Time)) (Std.-75 db(A))	58.3	69.2	66.48
2.	Near Fire Water Pump House (Night Time) (Std.-70 db(A))	52.2	62.8	58.71

*for
(J. Mahapatra)*



BRAHMAPUTRA CRACKER AND POLYMER LIMITED



**BRAHMAPUTRA CRACKER AND POLYMER
LIMITED**

**SIX MONTHLY COMPLIANCE
REPORT (June-2024)**

HPG-2 AND BUTENE-1 UNITS

BCPL Lepetkata (Dibrugarh)



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

BRAHMAPUTRA CRACKER AND POLYMER LIMITED

Sl. No.	B. SPECIFIC CONDITIONS:
1	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, and risk mitigation measures relating to the project shall be implemented. <u>Compliance status:</u> Shall be complied.
2	Total fresh water requirement shall not exceed 656 cum/hr. proposed to be met from Burhidihing river and bore well (intermittent). Necessary permission in this regard shall be obtained from the concerned regulatory authority. <u>Compliance status:</u> Shall be complied.
3	Comprehensive water audit to be conducted on annual basis and report to the concerned Regional Office of MEF&CC. Outcome from the report to be implemented for conservation Scheme. <u>Compliance status:</u> Shall be complied.
4	Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond <u>Compliance status:</u> Shall be complied.
5	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps. <u>Compliance status:</u> Shall be complied.
6	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. The ash from boiler shall be sold to brick manufacturers/cement industry. <u>Compliance status:</u> Shall be complied.
7	Regular VOC monitoring shall be done at vulnerable points. <u>Compliance status:</u> Shall be complied.
8	The oily sludge shall be subjected to melting pit for oil recovery and the residue shall be bio-remediated. The sludge shall be stored In HDPE lined pit with proper leach ate collection system. <u>Compliance status:</u> Shall be complied.



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

9.	Oil catchers/oil traps shall be 'provided at all possible locations in rain/ storm water drainage system inside the factory premises. <u>Compliance status:</u> Shall be complied.
10	The company shall undertake waste minimization measures as below: a) Metering and control of quantities of active ingredients to minimize waste. b) Reuse of by-products from the process as raw materials or as raw material Substitutes in other processes. c) Use of automated filling to minimize spillage. d) Use of Close Feed system into batch reactors. e) Venting equipment through vapour recovery system. f) Use of high-pressure hoses for equipment cleaning etc. to reduce wastewater generation. <u>Compliance status:</u> Shall be complied.
11	The green belt of 5-10 m width shall be developed in 33 of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department. <u>Compliance status:</u> Being complied
12	As per the Ministry's OM dated 30.09.2020 superseding the OM dated 01.05.2018 regarding the Corporate Environmental Responsibility, and as per the action plan proposed by the project proponent to address the socio-economic and environmental issues in the study area, the project proponent, as committed, shall provide education funds in technical training centers/ support in nearby village's schools, support in health care facilities, drinking water supply and funds for miscellaneous activities like solar street lights, battery, solar panel etc., in the nearby villages. The action plan shall to be completed within time as proposed. <u>Compliance status:</u> Shall be complied.
13	The project proponent shall ensure 70 of the employment to the local people, as per the applicable law. The project proponent shall set up a skill development centre/provide skill development training to village people. <u>Compliance status:</u> Shall be complied.
14	A separate Environmental Management Cell (having qualified person with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions <u>Compliance status:</u> Already exist
15	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

	<u>Compliance status:</u> Shall be complied.
16	Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCS and SPCS server. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet <u>Compliance status:</u> There is no such stack for HPG-2 & Butene-1 project. Further, Gardening already exists & real time monitoring system installed at existing ETP outlet.
17	PP to set up occupational health Centre for surveillance of the worker's health within and outside the plant on a regular basis. The health data shall be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection. <u>Compliance status:</u> Complied.
18	The National Emission Standards for Petrochemical (Basic & Intermediates) issued by the. Ministry vide G.S.R. 820 (E) dated 9th November, 2012 as amended time to time shall be followed. <u>Compliance status:</u> Noted
19	Recommendations of mitigation measures from possible accident shall be implemented based on Risk Assessment studies conducted through 3D modelling for worst case scenarios using latest techniques. <u>Compliance status:</u> Shall be complied.
B. GENERAL CONDITIONS:	
1	No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. 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/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any. <u>Compliance status:</u> Noted
2	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment bottomment, <u>Compliance status:</u> Shall be complied
3	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 the Environment (Protection) Act, 1986 Rules, 1989 viz.



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

	75 dBA (day time) and 70 dBA (night time). <u>Compliance status:</u> Shall be complied.
4	The company shall undertake all relevant measures for improving the socio- economic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment. <u>Compliance status:</u> Being complied
5	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change 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. <u>Compliance status:</u> Noted
6	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. <u>Compliance status:</u> Noted
7	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-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 reports shall be posted on the website of the company. <u>Compliance status:</u> Being complied
8	The environmental statement for each financial year ending 31st March in Form-Vas is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986/ as amended subsequently I 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 respective Regional Offices of MoEF&CC by-mail. <u>Compliance status:</u> Shall be complied.

(J. Mahanta)



BRAHMAPUTRA CRACKER AND POLYMER LIMITED

9	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 and at https://parivesh.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 concerned Regional Office of the Ministry. <u>Compliance status:</u> Noted
10	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. <u>Compliance status:</u> Noted
11	This Environmental clearance is granted subject to outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project. <u>Compliance status:</u> Shall be complied.

(J. Mahatha)

	Brahmaputra Cracker & Polymer Ltd.	Doc. No	(BCPL LEP/ENV-CIV/F1/001/R0)
	GREENBELT DEVELOPMENT	Rev. No	00
		Rev Date	
		Pages	Page 3 of 3

Identification of job: Greenbelt development

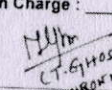
Date: 19.05.2021

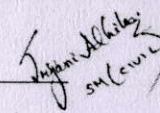
Check Points				
Sl. No.	Existing greenbelt area with location (Hectares)	Newly developed greenbelt area with location (Hectares)	Total greenbelt area (Hectares)	Remark
01	Marked in Existing plot plan 95.23 Hectares	Near Security Office / Gate House (left of main gate) 4 hectare	132.318 hectares	
02		Near orange garden and backside of admin building 5.5 hectares		
03		Near plant entrance (right) 10.188 hectares		
04		Herbal garden near central ware house 1 hectares		
05		Near MFS (long straight lawn) 5.7 hectares		
06		Near ETP area 6 hectares		
07		Near Construction area 4.7 hectares		

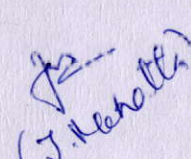
PROVIDE COMMENTS BELOW IF ANY

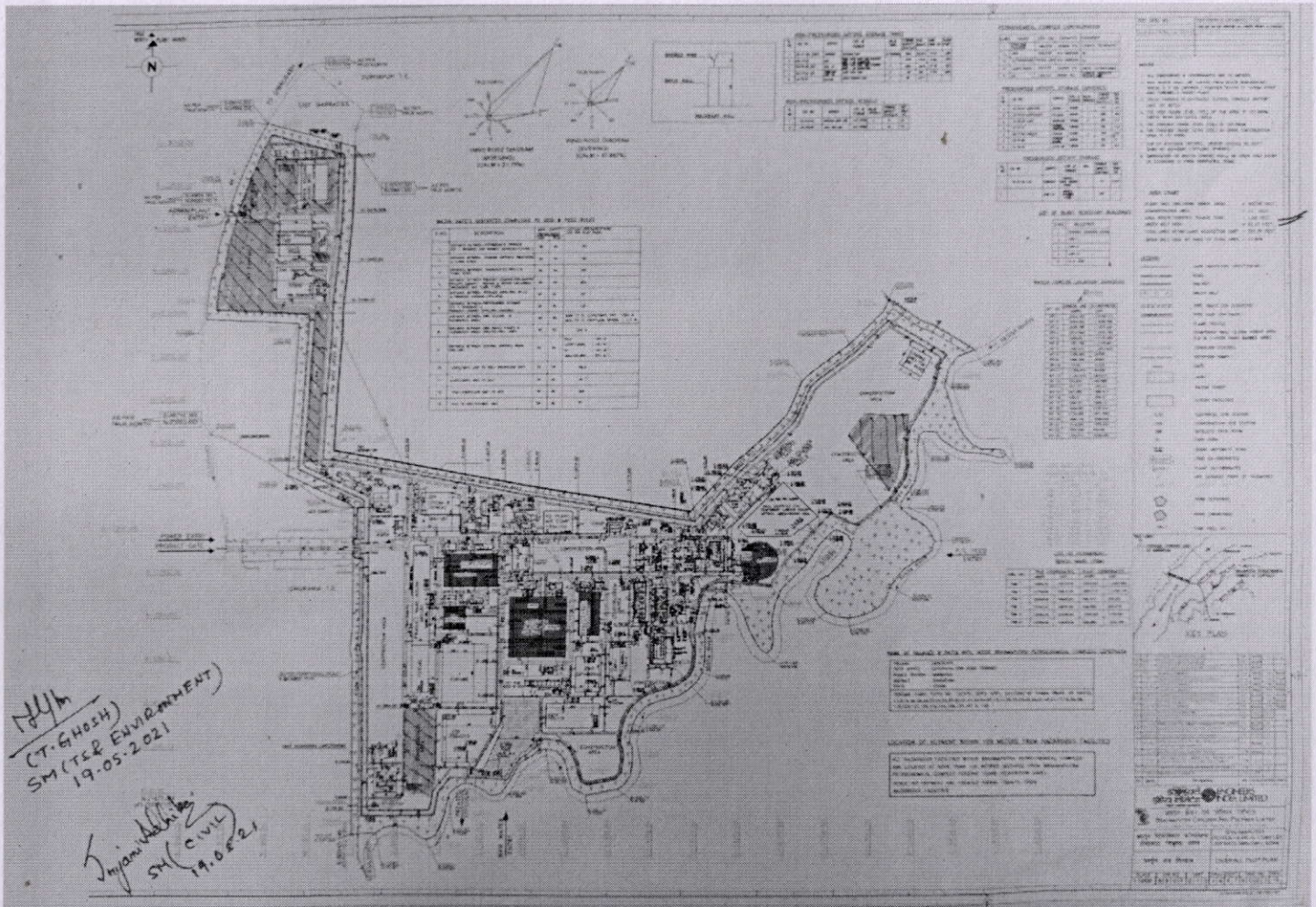
Further Development of Greenbelt development is also under progress

Signature of Site In Charge :


(T. GHOSH)
SM (TS & ENVIRONMENT DEPT)


SM (CIVIL)


(J. K. Ghosh)



J. Mohanta

BUDGET SPENT FOR EMC		
Sr. No.	Description	Rs (In cr.)
<u>Capital Expenditure</u>		
1	Installation of Effluent Treatment Plant	89.8
2	Quality Control Lab for Environmental monitoring	60
3	Treated effluent pipe line from BCPL Dibrugarh to Brahmaput	37.42
4	Flare Stack	3.56
5	Sessa River Embankment works	2.36
6	Bioremediation facilities	4.02
7	Stack Analysers-ECU	2.8
8	Stack Analysers-CPP	1.2
9	Ambient air online analyser	0.77
10	Online analyzer for treated effluent	0.18
11	Data Transmission to CPCB Server of all stacks emission data	0.035
13	Greenbelt Development	0.58
<u>Recurring Expenditure</u>		
1	Renewal of 'Consent to Operate' per financial year	0.6
2	Operation and maintenance of treated effluent disposal pipeline to Brahmaputra River	0.025
3	Public Liability Industrial Risk renewal for one year for all sites	0.05
4	Public Liability Insurance Act 1991 renewal for one year for all sites	0.001
5	Environmental parameters monitoring at BCPL, Lepatkata per year	0.145
6	Awariness programme & Events	0.06
		203.60585

for
(J. Mahanta)

Annexure- XVI



GOVERNMENT OF ASSAM
OFFICE OF THE DEPUTY COMMISSIONER :: DIBRUGARH DISTRICT
(LAND ACQUISITION BRANCH)

No. DRA.5/2007/

Dated Dibrugarh 24/04/2019.

Certificate of Completion of Rehabilitation

This is to certify that 22 Nos. of Sonowal Kachari families and 44 Nos. TGL and Ex-TGL families, totaling 66 Nos. were affected during the acquisition of land for setting up of the Gas Cracker Project (Brahmaputra Cracker and Polymer Limited) at Lepetkata under Dibrugarh West Revenue Circle and among 66 affected families, 22 Nos. of Sonowal Kachari families were rehabilitated at VGR Dag No.23 situated at Dulia-Gaon by providing them 1 Bigha of land each and the remaining 44 Nos. of TGL and Ex-TGL families were also rehabilitated at 45 Nos. Bolai FS Grant (B) by providing them 1 Bigha of land each.

This certificate is based on the report of Circle Officer, Dibrugarh West Revenue Circle.

Pallav Gopal Jha
23.6.19
(Pallav Gopal Jha, IAS)
Deputy Commissioner & Collector,
Dibrugarh.

Dated Dibrugarh 24/04/2019.

Memo No. DRA.5/2007/

-A-

Copy to:

1. Circle Officer, Dibrugarh West Revenue Circle, Dibrugarh.
2. Chief Manager (HR), BCPL, Lepetkata, 786006 for information and necessary action.

Pallav Gopal Jha
23.6.19
(Pallav Gopal Jha, IAS)
Deputy Commissioner & Collector,
Dibrugarh.

Jr
(J. Mahanta)

TL
TL
(T.G. Hossain)