

**BEFORE THE NATIONAL GREEN TRIBUNAL,  
PRINCIPAL BENCH, NEW DELHI**

**ORIGINAL APPLICATION NO. 442 OF 2023**

**IN THE MATTER OF:**

**PANKAJ SRIVASTAVA**

**... APPLICANT**

**VERSUS**

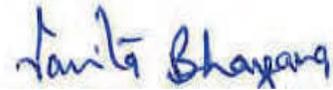
**BIRLA CARBON INDIA PRIVATE LIMITED**

**... RESPONDENT**

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**KHAITAN & CO**  
**ADVOCATES FOR THE RESPONDENT**  
**1105, ASHOKA ESTATE**  
**24, BARAKHAMBA ROAD**  
**NEW DELHI – 110 001**  
**PHONE NO: + 91 11 4151 5454**

**NEW DELHI**  
**DATED: 29.09.2023**



28 9 23 S. Mohan

श्री मयनराजी श्री. Masun Sabarwal

पति/पत्नी Tara chand Sabarwal

निवासी A-2 Staff Colony Bisle carbon

स.क.अ. Murdhaner More

Rkt SKR

1764



98/9/23

BEFORE THE NATIONAL GREEN TRIBUNAL,  
PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 442 OF 2023

IN THE MATTER OF:

PANKAJ SRIVASTAVA

... APPLICANT

VERSUS

BIRLA CARBON INDIA PRIVATE LIMITED

... RESPONDENT

REPLY AFFIDAVIT ON BEHALF OF THE RESPONDENT

I, Varun Sabarwal, son of Shri Tarachand Sabarwal, aged about 49 years, resident of A-2, Staff Colony, Birla Carbon, Murdhwa Mode, Renukoot, Distt. Sonebhadra, Pin: 231217, Uttar Pradesh, do hereby solemnly affirm and state as hereunder:-

1. That I am the authorized signatory of the Respondent Company in the above-mentioned matter and I am well aware of the facts and circumstances of the case to the best of my personal knowledge and belief. I am therefore competent and authorized to affirm the present affidavit on behalf of the Respondent Company.



Varun Sabarwal



28.9.23

2. That I have read and understood the contents of the aforementioned Original Application filed by the Applicant and I am therefore competent to reply to the same. The Answering Respondent is not adhering to a para wise reply but denies all averments made in the Original Application that are contrary to what has been stated in the present affidavit but not specifically denied.
3. That the aforementioned Original Application has been filed by the Applicant above named stating inter alia, that the unit of the Respondent in District Sonbhadra, Uttar Pradesh is emitting black colour air pollutants into the atmosphere from its Reactor Vent Scrubber Stack and from Main Bag Filter Stacks without the consent of the U.P Pollution Control Board (UPPCB) causing problems to the nearby residents, hence violating the Air (Prevention and Control of Pollution) Act, 1981 ("Air Act"). Further that, the UPPCB officials had visited the Respondent Unit on 15.04.2019 and instructed the Respondent Unit to maintain and manage the Air Act and related rules. He has also alleged that consent from the UPPCB was not taken for the Main Bag Filter Stack (consent taken for 8 stacks instead of 16 stacks).
4. This Hon'ble Tribunal vide order dated 24 July had constituted a committee to look visit the site and *inter alia*, submit a factual and action taken report in the matter, along with the compliance status with respect



*Handwritten signature: Manu Babarwal*  
*Handwritten signature and date: 28.9.23*

to CTO granted on 30 January 2019 and with respect to additional manufacturing processes.

5. The Respondent unit submitted a factual response vide letter dated 22 September 2023 inter alia, submitting that:-

a) The Respondent unit has valid Consent to Operate License (“CTO”), and the said CTO includes all the available stacks in the Respondent Unit. Pertinently, the individual Reactor Vent Scrubber was being used only when the reactor is OFF production and during heating/cooling cycles where the gases are coming out after complete combustion. Hence, unburned gases are not coming out of stacks. Further that the Respondent unit has 2 nos. Main Bag Filters (MBF) with multiple safety devices, and the safety devices operate during emergency only. Further that there are no stacks associated with these 2 MBFs.

b) That the Regional Officer, UPPCB visited the Respondent Unit on 15.04.2019 for inspection, and the Respondent Unit took corrective action as per the directions of the officials and communicated the same to UPPCB respectively. A copy of the letters communicating compliance to the UPPCB has been annexed to the Reply as **ANNEXURE - A**. The Respondent Unit also received a letter from UPPCB on 24.04.2019 suggesting us to take certain corrective



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28.9.23

actions, which was duly taken and communicated to the UPPCB on 22.07.2019. A copy of the letter dated 22.07.2019 has been annexed to the Reply as **ANNEXURE - B**.

c) The authority issued a letter on 29.06.2021, directing the Respondent Unit to take certain and appropriate corrective action, which was duly taken and communicated to UPPCB on 09.07.2021. A copy of the same is annexed to the Reply as **ANNEXURE - C**.

d) The Reactor Scrubber Vent is designed for scrubbing the gaseous mixture during shut down and reactor heat up, which is not a routine activity. A copy of Wet Scrubber drawing and photo of vent scrubber discharge after scrubbing is annexed to the reply as **ANNEXURE - D**.

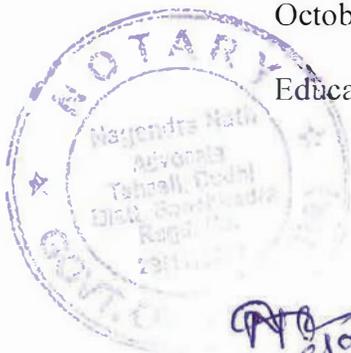
e) The Respondent Unit produces Carbon Black, which is a main product, so any spillage is a loss for the Unit. The entire process is in a closed loop and a process flow diagram of the same is attached as **ANNEXURE - E** to the reply.

f) The reply dated 22.09.2023 filed by the Respondent unit along with annexures is annexed hereto and marked as **ANNEXURE - R/1 (COLLY)**.



*Handwritten signature: V. Anurag Subramanian*  
*Handwritten signature: [Signature]*  
*Handwritten signature: [Signature]*  
28.9.23

6. In light of the same, it is submitted that the Applicant has made false allegations without verifying the facts from the authorities or the Respondent.
7. It is submitted that the Application is motivated petition filed by an Applicant who is a disgruntled ex-employee of the Respondent. The Applicant was employed with the Respondent for a period of 32 years and in fact worked in the Safety Health and Environment Department in the year 2006 and was heading the same till September, 2020. In September 2020 he requested early retirement due to family commitments, which was granted by the Respondent. However, he again sought to be reinstated, and at his request he was granted an extension of one year, in view of the personal difficulty faced by him. Thereafter in July 2021 after his one-year extension came to an end, he again requested for extension of three years which was refused since the Respondent could not accommodate the request. A copy of the letter of request and resume sent by the Applicant is annexed as **ANNEXURE – R/2 (COLLY)**.
8. It is submitted that the Hon'ble Supreme Court in its judgment dated 21 October 2022 passed in the case of State of Uttar Pradesh versus Uday Education and Welfare Trust in C.A. No. 2407 of 2021 has held that



*Nagendra Nath*  
*28.9.23*

before a litigant is permitted to knock the door of justice and seek orders which have far reaching effect of effecting the employment of thousands of persons, stopping investment in the state, the credentials and bonafides of the applicant must be tested. Therefore, the Hon'ble Supreme Court requested the Learned NGT that when credentials and bonafides of litigant are seriously raised, when entertaining the grievance of such litigant which is likely to adversely affect the rights of many, the Learned NGT should ensure the bonafides and credentials of such litigants.

9. The Hon'ble Supreme Court in Dalip Singh versus the State of Uttar Pradesh, (2010) 2 SCC 114 has condemned the practice of litigants approaching courts and tribunals with unclean hands attempting to use the machinery of the justice system for its mala fide motives.
10. The Respondent unit is a responsible global organization and is environmentally conscious. It recognizes its responsibility to safeguard the environment. It takes a long-term view and continually adapts and invests towards using resources more effectively and minimizing adverse impact on environment, if any. Its aim is to become net zero ( carbon neutral) by 2050. The environmental part of the sustainability report 2022 is annexed hereto and marked as **ANNEXURE - R/3**.



*Nandu Babbarwal*  
*[Signature]*  
*[Signature]*  
28.9.23

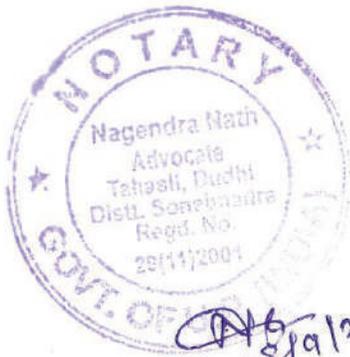
11. In view of the aforesaid, it is submitted that the aforesaid application may be dismissed with costs.

*V. Kumar, Jabbarwal*  
**DEPONENT**  
*[Signature]*  
*[Signature]*  
28.9.23

**VERIFICATION**

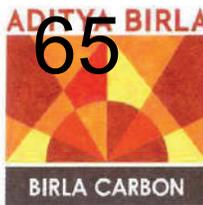
I, the deponent above named do hereby verify that the contents of foregoing affidavit are true and correct to my knowledge, no part of it is false and nothing material has been concealed there from.

Verified at Dudhwa on this the 28 day of September, 2023.



*[Signature]*  
28/9/23

*V. Kumar, Jabbarwal*  
**DEPONENT**  
*[Signature]*  
*[Signature]*  
28.9.23



Date: 22 September 2023

To,  
HONORABLE NATIONAL GREEN TRIBUNAL,  
PRINCIPAL BENCH, NEW DELHI.

Reference: Original Application No. 442/2023 Date of hearing: 24.07.2023

Respected Sir,

Please find below our paragraph wise response to the above said application.

- A. Against paragraph 1 of the application, it is submitted that the company has valid Consent to Operate License (CTO). The CTO includes all the available stacks in the company. Individual reactor vent scrubber is used ONLY when the reactor is OFF production and during heating / cooling cycles where the gases are coming out after complete combustion. Hence, unburned gases are not coming out of stacks. We have 2 nos. Main Bag filters (MBF) with multiple safety devices. These safety devices operate during emergency ONLY. It is to be noted that there is no stacks associated with these 2 main bag filters.
- B. Against paragraph 2 of the application, it is submitted that the Regional Officer, UPPCB visited our plant on 15.04.2019 for inspection. We took corrective action as per the directions of the officials and communicated to UPPCB through letters dated 15.04.2019, 18.04.2019 & 20.04.2019 respectively. **(refer Annexure A)**. The company received letter from UPPCB on 24.04.2019 suggesting us to take certain corrective actions. We took the corrective action and communicated to the UPPCB on 22.07.2019 **(refer Annexure B)**
- C. Against paragraph 3 of the application, the authority issued a letter on 29.06.2021, directing us to take appropriate corrective action. Accordingly, we took corrective action and communicated to RO UPPCB on 09.07.2021 **(refer Annexure C)**

*Sud*

Birla Carbon India Private Limited

(Formerly known as SKI Carbon Black (India) Private Limited)

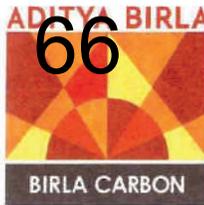
Unit : Renukoot

Murdhwa Indl. Area, P.O. Renukoot, Dist. Sonebhadra - 231 217, U.P., India

T : +91 5446 252388 - 91 / 255020 | F : +91 5446 252387 | W : www.birlacarbon.com | CIN : U23201MH2013PTC241741

Marketing Office 910 - 911, Kailash Building, Kasturba Gandhi Marg, New Delhi - 110 001 | T : +91 11 2335 1069 / 71 | F : +91 11 2335 0594

Regd. Office Aditya Birla Centre, S. K. Ahire Marg, Worli, Mumbai - 400 030, India | T : +91 22 6652 5000

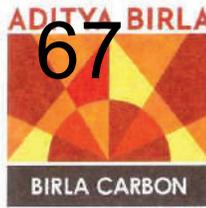


- D. Against paragraph 4 of the application, it is submitted that the reactor scrubber vent is designed for scrubbing the gaseous mixture during shut down and reactor heat up. Which is not a routine activity. **(Refer Annexure D)**
- E. We produce Carbon Black, which is our main product, so any spillage is a loss for us. Entire Process are in close loop. Process flow diagram is attached for your reference. **(refer Annexure E)**
- F. Against the paragraph 6 of the application, It is submitted, that the company has valid Consent to Operate License (CTO). The CTO includes all the available stacks in the company. The height of 6 nos. stacks of reactor vent scrubber is not included in current CTO, however, it was mentioned in previous CTO. Individual reactor vent scrubber is used ONLY when the reactor is OFF production and during heating / cooling cycles where the gases are coming out after complete combustion, hence there is NO possibility of carbon monoxide presence, as mentioned in application. We have 2 nos. Main Bag filters (MBF) with multiple safety devices. These safety devices operate during emergency ONLY. It is to be noted that there are no stacks associated with these 2 main bag filters.
- G. Birla Carbon is a global organisation and acts responsibly towards the environment & society. We never intentionally release any pollutant outside the plant premises. Rather, we recycle it for the use in our process.

**Birla Carbon India Private Limited**  
(Formerly known as SKI Carbon Black (India) Private Limited)  
Unit : Renukoot

Murdhwa Indl. Area, P.O. Renukoot, Dist. Sonbhadra - 231 217, U.P., India

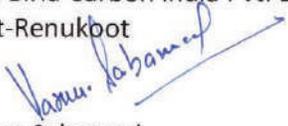
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H. Birla Carbon is a responsible global organization, which pays utmost attention to the environment. We recognize our responsibility to safeguard the environment. This means taking a long-term view and continually adapting and investing in our environmental stewardship to use resources more effectively and minimizing our adverse impact. Our aim is to become net zero (carbon neutral) by 2050.

Considering the above facts, it is our humble request to dismiss the application. We reassure you our commitment towards Environment and society.

Yours faithfully  
For, Birla Carbon India Pvt. Ltd,  
Unit-Renukoot

  
Varun Sabarwal  
Unit Head

Encl.: As mentioned above

Cc:

Regional Officer, Uttar Pradesh Pollution Control Board, H. No. 162, Uttar Mahal, Roberstgunj, Dist. Sonbhadra, UP, Pin: 231216.

**Birla Carbon India Private Limited**  
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Date: 15.04.2019

To  
The Regional Officer  
UP Pollution Control, Board  
HN- 152, Near Chandi Hotel  
Roberstganj , Sonebhadra

Sub – Carbon Emission

Dear Sir

This is regarding Carbon Emission from our plant on 14.04.2019. In this connection we would like to inform you following.

The Plant Line -2 was shut down at 1.45 PM due to main bag filter Screw Conveyor tripping problem. Maintenance work started after starting water sprinklers.

Emission was observed by us from pipe line's residual carbon and maintenance work was stopped to control the emission. Later on pipe line was water washed.

This is submitted for your kind information with a commitment to avoid such incidence in future

Thanking You,

Yours Sincerely  
*JPN Singh*  
(JPN Singh)  
Factory Manager

Copy to: District Magistrate- Sonebhadra  
SDM- Dudhi

*Recd*  
*Recd*  
*SDM*  
*15/4/19*

Birla Carbon India Private Limited  
(Formerly known as SKI Carbon Black (India) Private Limited)  
Unit : Renukoot

Murdhwa Indl. Area, P.O. Renukoot, Dist. Sonebhadra - 231 217, U.P., India

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Regd. Office Aditya Birla Centre, S. K. Ahire Marg, Worli, Mumbai - 400 030, India | T : +91 22 6652 5000

दिनांक 19.04.2019

सेवा में,

श्रीमान उपजिलाधिकारी  
दुहरी  
सोनभद्र - 231216

विषय :- विडला कार्बन प्लांट लाईन- 2 से कार्बन उत्सर्जन की घटना के सम्बन्ध में ।

महोदय,

उक्त के विषय में सूचनाय है कि दिनांक 14 अप्रैल, 2019 को अपराह्न 1:45 बजे से कार्बन ब्लैक लाईन- 2 में एम0वी0एफ0 स्कू कन्वेयर के बन्द होने की वजह से उत्पादन को बन्द कर दिया गया था। एम0वी0एफ0 स्कू को पुनः चलाने हेतु उसमें एकत्रित कार्बन को वॉटर रिप्रिकलर को चालू करने के बाद ड्रेन पाईप से निकाला गया। इस दौरान सांय 5:00 बजे के बाद तेज हवा के कारण कार्बन के कण कार्बन ब्लैक प्लांट की चार दीवारी के बाहर उड़कर पहुँच गए। इस घटना को देखते ही इस प्रक्रिया को तुरन्त बन्द कर दिया गया, बाद में एम0वी0एफ0 स्कू के अन्दर पानी डालकर स्कू को साफ किया गया।

प्रबन्धन ने इस घटना से सीख लेते हुए यह निर्णय लिया कि भविष्य में इस तरह की समस्या होने पर सदैव एम0वी0एफ0 स्कू के अन्दर कार्बन को गीला करके उसे बाहर निकाला जाएगा, ताकि कार्बन उत्सर्जन को रोका जा सके। इसके सम्बन्ध में उत्तर प्रदेश प्रदूषण कन्ट्रोल बोर्ड के अधिकारियों द्वारा दिनांक 15.04.2019 को प्लांट का निरीक्षण किया गया तथा पर्यावरण सम्बन्धित उपकरणों के रखरखाव को सही पाया गया एवं वातावरण की गुणवत्ता को मानकों के अनुरूप पाया गया।

यह है कि रेणुकूट नगर के मान्य चिकित्सक एवं रोटरी क्लब के चिकित्साधिकारी डॉ० एम0आर0 चक्रवर्ती के अनुसार कार्बन ब्लैक हजार्डस् उत्पाद नहीं हैं। तथा कार्बन ब्लैक शरीर में लगने की वजह से किसी भी प्रकार की एलर्जी नहीं होती है।

अतः आपसे निवेदन है उपरोक्त तथ्यों को दृष्टिगत रखते हुए कि प्रबन्धन आप को आश्वासन देते है कि इस तरह की घटना की पुनरावृत्ति नहीं होगी तथा इस कार्यवाही को यही पर समाप्त करने का कष्ट करें ।

धन्यवाद,

कृते विडला कार्बन इण्डिया प्रा०लि०  
(यूनिट:- रेनुकूट)

*Je. P. An. Singh*

जे. पी. एन. सिंह  
कारखाना प्रबन्धक



Birla Carbon India Private Limited  
(Formerly known as SKI Carbon Black (India) Private Limited)  
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Dated 19.04.2019

To,  
The Deputy Collector  
Duddhi  
Sonbhadra-231216

**Subject:-** Regarding the incident of carbon emissions from Birla Carbon Plot Line-2.

Sir,

In connection with the above, it is noteworthy that the production was stopped due to closure of MBF screw conveyor in Carbon Black Line-2 from 1:45 pm on April 14, 2019. To restart the MBF screw, the carbon collected in it was removed from the drain pipe after switching on the water sprinkler. During this time, after 5:00 pm, due to strong wind, carbon particles flew outside the four walls of the carbon black plant. This process was immediately stopped after seeing this incident. Later, by pouring water inside the MVF screw, the screw was cleaned.

Learning from this incident, the management decided that in case of such a problem in future, the carbon inside the MVF screw would always be wetted and taken out, so that carbon emissions could be prevented. In this regard, the plant was inspected by the officials of Uttar Pradesh Pollution Control Board on 15.04.2019 and the maintenance of environment related equipment was found to be correct and the quality of the environment was found to be as per the standards.

This is that according to Dr. M.R. Chakrawarty, a recognized doctor of Renukoot Nagar and Medical Officer of Rotary Club, carbon black is not a hazardous product and due to the presence of carbon black in the body, there is no allergy of any kind.

Therefore, you are requested that keeping the above facts in view, the management assures you that such an incident will not be repeated and make efforts to end this proceeding here.

Thank you.

For Birla Carbon India Pvt. (Unit:- Renukoot)

Sd/-

J.P.N. Singh

Factory Manager

Date: 14/04/2019

To

The Regional Officer

U.P. Pollution Control Board

H.N. 152, Near Chandi Hotel

Robertsganj, Sonbhadra, U.P.

Sub: Carbon Emission at Birla Carbon, Renukoot on 14/04/2019 at Sonbhadra.

Dear Sir

I would like to draw your kind attention regarding the health hazards of Black Carbon & to appraise you of the facts as per WHO/OSHA & NIOSH:

1. Carbon black has been the subject of extensive scientific health studies during the past several decades and it was not found Hazardous
2. Carbon Black is not classified as hazardous substance for any toxicological or eco-toxicological end point.
3. Short-term exposures to elevated concentrations may produce mild effect with sneezing & Nasal Irritation.
4. Black Carbon does not cause any Skin Allergy which has not been reported anywhere throughout the world.

A details print out of the power point presentation is attached herewith

cc: Dist. C.M.O. Sonbhadra

CC - District Magistrate Sonbhadra



S.S. - 18/04/19  
(C.M.O. Sonbhadra)  
मुख्य चिकित्सा अधिकारी  
सोनभद्र

Date: 14/04/2019

To  
The Regional Officer  
U.P. Pollution Control Board  
H.N. 152, Near Chandl Hotel  
Robertsganj, Sonabhadra, U.P.

Sub: Carbon Emission at Birla Carbon, Renukoot on 14/04/2019 at Sonabhadra.

Dear Sir

I would like to draw your kind attention regarding the health hazards of Black Carbon & to appraise you of the facts as per WHO/OSHA & NIOSH:

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3. Short-term exposures to elevated concentrations may produce mild effect with sneezing & Nasal Irritation.
4. Black Carbon does not cause any Skin Allergy which has not been reported anywhere throughout the world.

A details print out of the power point presentation is attached herewith

cc: Smt. CMO. Sonabhadra

✓  
District Magistrate Sonabhadra



मुख्य निमित्तका आविर्भाव  
सोनभद्र



## ANNEXURE - B

दिनांक 19.07.2019

सेवा में,  
 क्षेत्रीय अधिकारी महोदय,  
 क्षेत्रीय कार्यालय  
 उ०प्र० प्रदूषण नियंत्रण बोर्ड  
 म०स० 162, उत्तर मोहाल (निकट चण्डी होटल)  
 रावर्टसगांज, सोनभद्र।

विषय – उद्योग से उत्सर्जित कार्बन ब्लैक के कारण होने वाले वायु प्रदूषण की रोकथाम किये जाने के सम्बन्ध में।

महोदय,

कृपया आपके पत्र सं० 112485/बिड़ला कार्बन/Vol-6/2019 दिनांक 24.04.2019 को सन्दर्भ में निरिक्षण आख्या पर अनुपालन की स्थिति निम्न है—

1. कारखाने में स्थापित मेन बैग फिल्टर लाईन 01 एवं मेन बैग फिल्टर लाईन 02 के स्कू कन्वेयर के समस्त ड्रेन प्वाइंट को स्थायी रूप में कवर्ड करने का कार्य आरम्भ हो गया है। फोटोग्राफ की प्रति संग्रहण के साथ – अनुलग्नक 1
2. कारखाने में स्थापित मेन बैग फिल्टर लाईन 01 एवं लाईन 02 के चारों तरफ वाटर सिप्रकलिंग हेतु मल्टी लेयर्ड रेन-गन्स स्थापित करने का कार्य आरम्भ है। फोटोग्राफ की प्रति संग्रहण के साथ – अनुलग्नक 2
3. कारखाने में स्कू कन्वेयर के ट्रिप होने की स्थिति में कार्बन ब्लैक को बैग हाउस के अन्दर ही पूर्णतया वेट करने के उपरान्त ही डिस्चार्ज करना सुनिश्चित करेंगे।
4. कारखाने में स्थापित पर्ज गैस फिल्टर के साथ स्थापित दोनों चिमनियों से उत्सर्जित होने वाले फ्लू गैस में सस्पेंडेण्ड पार्टिकुलेट मैटर के सतत् अनुश्रवण का कार्य मानव जीवन के खतरनाक है तथा यह कार्य कारखाने के शटडॉउन के दौरान किया जा सकता है। लाईन-2 में सतत् अनुश्रवण का कार्य सम्पन्न हो गया मगर अभी यू०पी०पी०सी०वी० के सर्वर से लिंक नहीं हो पाया सम्भवतः एक सप्ताह में पूर्ण कर लिया जाएगा तथा लाईन-1 के सतत् अनुश्रवण का कार्य शटडॉउन के दौरान माह अगस्त के अन्तिम सप्ताह में प्रस्तावित है। जिसके फोटोग्राफ की प्रति संग्रहण के साथ अनुलग्नक – 4।
5. कारखाने परिसर के चारों तरफ ऊँचे, घने एवं प्रदूषणरोधी किस्म के पौधों का रोपण किया गया है। जिसके फोटोग्राफ की प्रति संग्रहण के साथ अनुलग्नक – 3
6. कारखाने में स्थापित चिमनियों से उत्सर्जित हो रहे फ्लू गैस के नमूने एवं परिवेशीय वायु के नमूने का कार्य चल रहा है तथा रिपोर्ट 10 दिनों में सूचनार्थ हेतु प्रेषित किया जाएगा।

उक्त अनुपालन रिपोर्ट आपके सूचनार्थ हेतु प्रेषित है।

भवदीय

कृते बिड़ला कार्बन इण्डिया प्रा० लि०

(यूनिट:- रेनुकूट)

*Stone Singh*  
 जे०पी०एन० सिंह  
 कारखाना प्रबन्धक

संलग्नक – उपरोक्त।

Birla Carbon India Private Limited  
 (Formerly known as SKI Carbon Black (India) Private Limited)  
 Unit : Renukoot

Murdhwa Indl. Area, P.O. Renukoot, Dist. Sonbhadra - 231 217, U.P., India

T: +91 5446 252388 - 91 / 255020 | F: +91 5446 252387 | W: www.birlacarbon.com | CIN : U23201MH2013PTC241741

Marketing Office 910 - 911, Kailash Building, Kasturba Gandhi Marg, New Delhi - 110 001 | T: +91 11 2335 1069 / 71 | F: +91 11 2335 0594

Regd. Office Aditya Birla Centre, S. K. Ahire Marg, Worli, Mumbai - 400 030, India | T: +91 22 4457 5000

ADITYA BIRLA  
BIRLA CARBON

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Dated:-19.07.2019

To,

Regional Officer Sir,

Regional Office

Uttar Pradesh Pollution Control Board

M.S. 162, North Mohal (Near Chandi Hotel) Robertsganj, Sonbhadra.

**Sub:-**Regarding prevention of air pollution caused by carbon black emitted from industry.

In relation with

Sir,

Please refer to your letter No. 112485/Birla Carbon/Vol-6/2019 dated 24.04.2019, the status of compliance on inspection report is as follows-

1. The work of permanently cubbing all the drain points of the screw conveyors of Gain Bag Filter Line 01 and Man Bag Filter Line 02 installed in the factory has started. (Copy of photograph with attachment is attached herewith as Annexure-1)
2. The work of installing multi-layer rain guns for water sprinkling around the main bag filter Line 01 and Line 02 installed in the factory has started. (Copy of photograph with attachment is attached herewith as Annexure 2)
3. In case of tripping of screw conveyor in the factory, it will be ensured to discharge the carbon black inside the bag house only after batting it completely.

4. The work of continuous monitoring of suspended particulate matter in flue gas emitted from both the chimneys installed in the factory with merge slurry filters is dangerous to human life and this work can be done during the shutdown of the factory. The work of continuous monitoring in Line-2 has been completed. The city could not be linked to the UPPCB server. Probably, it will be completed in a week and the work of continuous monitoring of Line-1 is proposed in the last week of August during the shutdown. (The copy of photographs with attachment is attached herewith as Annexure - 4).
  
5. Tall, dense and pollution-free plants have been planted all around the factory premises. (The copy of photographs with attachment is attached herewith as Annexure - 3).
  
6. The work of sampling the exhaust gas and ambient air samples being emitted from the chimneys installed in the factory is going on and the report will be sent for information in 10 days.

Sincerely

Birla Carbon India Pvt.

Ltd. (Unit:-Renukoot)

Sd/-

J.P.N Singh  
Factory Manager  
Attachment – above.

Birla Carbon India Private Limited  
(Formerly known as SKI Carbon Black (India)  
Private  
Limited  
MurdhawaIndl, Area, P.O. RenukootDist,  
Sonebhadra

231217, UP, India  
T:-91-5446 252388-91/255020 | F: +91 5446

252387/W:[www.birtacarbon.com](http://www.birtacarbon.com)

CIN: U23201MH2013PTC241741

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Marketing Office 910-911, Kalash Building, Kasturba  
Gandhi Marg, New Delhi  
110001/T: +91 11 23351069/71/F: +91 11123350594  
Regd. Office Adiya Birla CCentre, S.K. Ahire Marg, Worli-  
Mumbai-400030 India



77

UKR-  
FIO KLS.  
3-6/5/19क्षेत्रीय कार्यालय  
REGIONAL OFFICE  
उ०प्र० प्रदूषण नियंत्रण बोर्ड  
U.P. POLLUTION CONTROL BOARD  
सोनभद्र  
SONBHADRA

24

सन्दर्भ सं०  
Ref. No. 112495/विरला कार्बन/Val-6/2019दिनांक  
Date 24/4/19

अतिमहत्वपूर्ण

सेवा में,

मेसर्स विरला कार्बन इण्डिया प्रा०लि०  
(पूर्वनाम मे० एस०के०आई० कार्बन ब्लैक (इण्डिया) प्रा०लि०,  
यूनिट-रेनुकूट, मुर्घवा, रेनुकूट,  
जनपद-सोनभद्र।

विषय:- उद्योग से उत्सर्जित कार्बन ब्लैक के कारण होने वाले वायु प्रदूषण की रोकथाम किये जाने के सम्बन्ध में।

महोदय,

कृपया उपरोक्त विषयक उद्योग के विरुद्ध सोशल मीडिया के माध्यम से प्राप्त शिकायत जो जिलाधिकारी कार्यालय के माध्यम से इस कार्यालय को प्राप्त हुई थी के परिप्रेक्ष्य में इस कार्यालय द्वारा दिनांक-15.04.2019 को उद्योग का किये गये निरीक्षण का सन्दर्भ ग्रहण करना चाहें। निरीक्षण के समय पाया गया है कि उद्योग में स्थापित साफ्ट ब्लैक रिपेक्टर की लाईन सं०-02 में मेन बैग फिल्टर स्कू कन्वेयर ट्रिप होने तथा इसकी सफाई करते समय बैग हाऊस में उपस्थित कार्बन ब्लैक दिनांक-14.04.2019 को वायुमण्डल में उत्सर्जित होने से आस-पास के वातावरण में वायु प्रदूषण की गम्भीर समस्या उत्पन्न हुई थी, जिससे आस-पास के जन-सामान्य के स्वास्थ्य एवं वातावरण पर प्रतिकूल प्रभाव पड़ने की सम्भावना है। अतः उपरोक्त परिप्रेक्ष्य में प्राप्त निरीक्षण आख्या एवं अनुश्रवण आख्या में वर्णित तथ्यों को दृष्टिगत रखते हुए आपको निम्न बिन्दुओं पर अनुपालन करने हेतु निर्देशित किया जाता है :-

1. उद्योग में स्थापित मेन बैग फिल्टर लाईन-01 एवं मेन बैग फिल्टर लाईन-02 के स्कू कन्वेयर के समस्त ड्रेन प्वाइण्ट को स्थायी रूप से मेटल शीट द्वारा पूर्णतया कवर्ड किया जाये।
2. उद्योग में स्थापित मेन बैग फिल्टर लाईन-01 एवं मेन बैग फिल्टर लाईन-02 के चारों तरफ वाटर स्पिंकलिंग हेतु मल्टी लेयर्ड रेन गन्स की व्यवस्था स्थापित किया जाये तथा प्रभावी ढंग से क्रियान्वित करने हेतु नियमित रूप से इसका मॉकड्रिल किया जाये।
3. उद्योग द्वारा स्कू कन्वेयर के ट्रिप होने की स्थिति में कार्बन ब्लैक को बैग हाऊस के अन्दर ही पूर्णतया वेट करने के उपरान्त ही डिस्चार्ज किया जाये, जिससे कि कार्बन ब्लैक का उत्सर्जन न हो।
4. उद्योग में स्थापित पर्ज गैस फिल्टर के साथ स्थापित दोनों चिमनियों से उत्सर्जित होने वाले फ्लू गैस में सस्पेंडेण्ड पार्टिकुलेट मैटर के सतत अनुश्रवण हेतु कन्टीन्यूअस ऑनलाइन इमीसन मॉनिटरिंग सिस्टम प्रत्येक दशा में एक माह के अन्दर स्थापित कर केन्द्रीय प्रदूषण नियंत्रण बोर्ड, नई दिल्ली एवं उ०प्र० प्रदूषण नियंत्रण बोर्ड के सर्वर से लिंक किया जाये।
5. उद्योग परिसर के चारों तरफ ऊँचे, घने एवं प्रदूषणरोधी किस्म के पौधों की हरित पट्टिका विकसित किया जाये।
6. उद्योग द्वारा प्रत्येक त्रैमास में उद्योग में स्थापित चिमनियों से उत्सर्जित हो रहे फ्लू गैस के नमूने एवं परिवेशीय वायु के नमूने का एकत्रण पर्यावरण (संरक्षण) अधिनियम, 1986 के अन्तर्गत मान्यता प्राप्त प्रयोगशाला अथवा एन०ए०बी०एल० एफ्रीडेटेड प्रयोगशाला से कराकर अनुश्रवण आख्या राज्य बोर्ड को प्रेषित किया जाये।

अग्रेतर आपको पुनः निर्देशित किया जाता है कि उक्त बिन्दुओं का अनुपालन सुनिश्चित करते हुए अनुपालन आख्या यथाशीघ्र राज्य बोर्ड तथा जिला प्रशासन, सोनभद्र को प्रेषित करना सुनिश्चित करें।

भवदीय,

  
क्षेत्रीय अधिकारी

प्रतिलिपि:-निम्नलिखित को सूचनार्थ।

1. जिलाधिकारी महोदय, सोनभद्र।
2. मुख्य पर्यावरण अधिकारी (वृत्त-2), उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ।

क्षेत्रीय अधिकारी

कार्यालय- म०सं० 162, उत्तर मोहाल (निकट चण्डी होटल)  
रावर्ट्सगंज-सोनभद्र (231216)  
फोन नं०- 05444-222464  
फैक्स नं०- 05444-222464  
ई-मेल- rosonbhadra@uppcb.comOffice H. N. 162, Uttar Mohal (Near Chandi Hotel)  
Robertsganj, Sonbhadra (231216)  
Phone No. : 05444-222464  
Fax No. : 05444-222464  
E-mail Id : rosonbhadra@uppcb.com

REGIONAL OFFICE,  
UTTAR PRADESH POLLUTION CONTROL BOARD,  
SONBHADRA

Ref. No. 112485/Birlacarbon/Val-6/2019

Dated 24.04.2019

Very important

To,

M/s Birla Carbon India Pvt. Ltd.

(Formerly M/s EraKI Carbon Black India Pvt. Ltd.),

Murdhwa, Renukoot, JanpadSonbhadra.

**Sub:-**Regarding prevention of air pollution caused by carbon black emitted from industry.

Sir,

Please keep in perspective the complaint received against the above-mentioned industry through social media which was received by this office through the District Magistrate's office, in the context of the inspection of the industry conducted by this office on dated 15.04.2019. At the time of inspection, it was found that the flat black installed in the industry a serious problem of air pollution had arisen in the

surrounding environment due to tripping of main filter screen conveyor in the reactor line and the carbon present in the bag house being released into the atmosphere while cleaning it on dated 14.04.2019, which was affecting the health of the people nearby. And there is a possibility of adverse impact on selection. Therefore, keeping in view the facts mentioned in the inspection report and experience report received in the above context, you are directed to comply with the following points:

1. All the drain points of the main bag filter line 01 and main bag filter line 02 screw conveyor installed in the industry should be completely covered with metal sheets permanently.
2. A system of multi ladders rain guns should be installed for water sprinkling all around the main bag filter line 01 and main bag filter line 02 installed in the industry and its mock drill should be done regularly for effective functioning.

3. In case of tripping of the screw conveyor by the industry, the carbon black should be discharged inside the bag house only after completely weighing it so that there is no emission of carbon black.
  
4. Central Pollution Control Board, New Delhi and Uttar Pradesh Pollution Control Board by installing Continuous Online Emission Monitoring System within a month in each case for continuous monitoring of suspended particulate matter in the flue gas emitted from both the chimneys installed in the industry along with purge gas filters. It should be linked to the server of Pollution Control Court.
  
5. A green belt of tall, dense and pollution-resistant types of plants should be developed around the industrial premises.

6. The samples of flue gas being emitted from the chimneys installed in the industry should be collected every quarter by the industry from a laboratory recognized under the Environment Protection Act 1986 or NABL accredited laboratory and the serial number should be sent to the State Board.

You are further directed to ensure compliance with the above points and send the compliance report to the State Board and District Administration Sonbhadra as soon as possible.

Yours sincerely,

Sd/-

24.04.2019

(Regional Officer)

Copy - For information to the following.

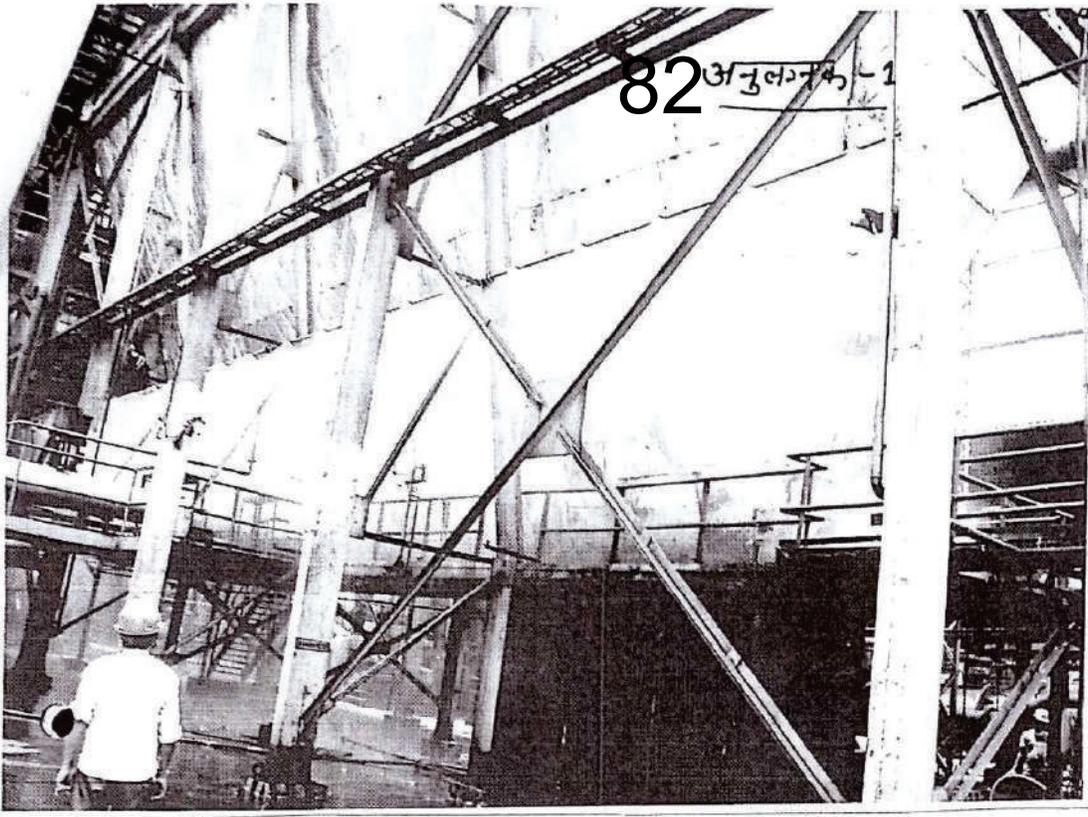
1. District Magistrate Sir, Sonbhadra.
2. Chief Environment Officer (VRRRA-2), Uttar Pradesh Pollution Control Board, Lucknow.

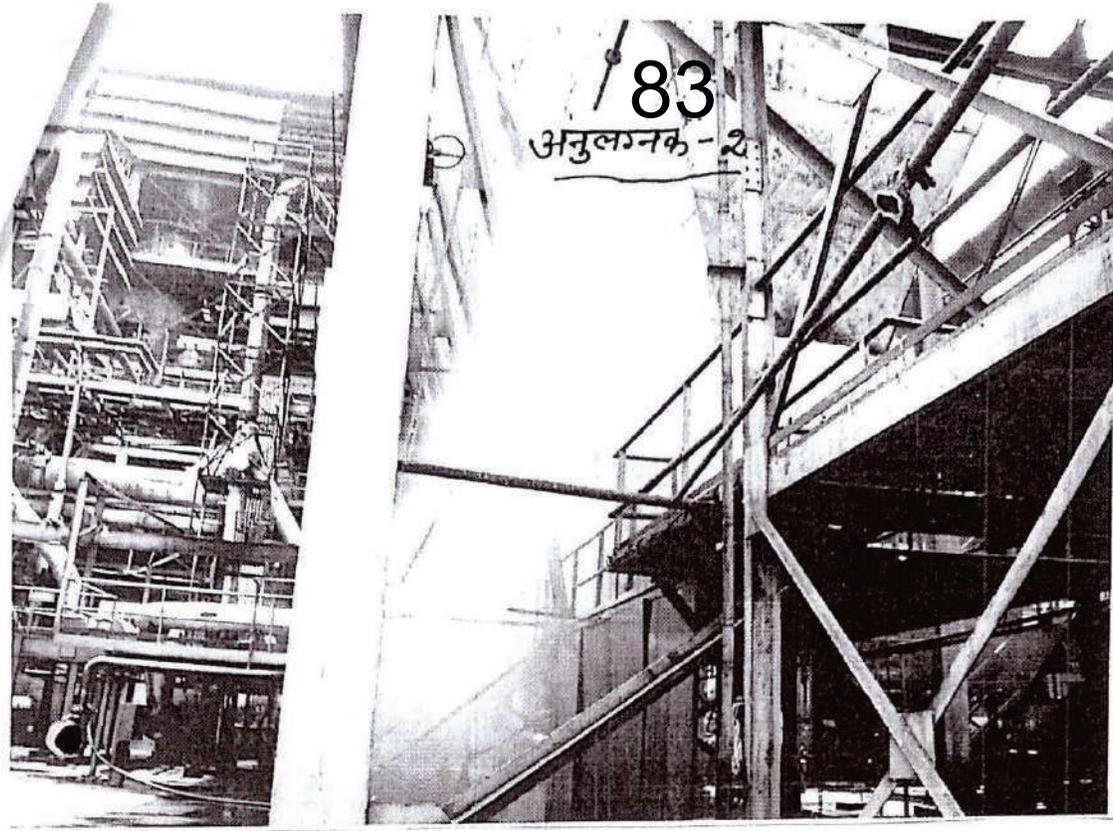
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Office Address: H.No.162, Uttar Mahol (Near Chandi Hotel)  
Robertsganj, Sonbhadra (231216)  
Phone No. 05444-222464, Fax No. 05444-222464  
Email-id [rsonbhadra@uppeb.com](mailto:rsonbhadra@uppeb.com)

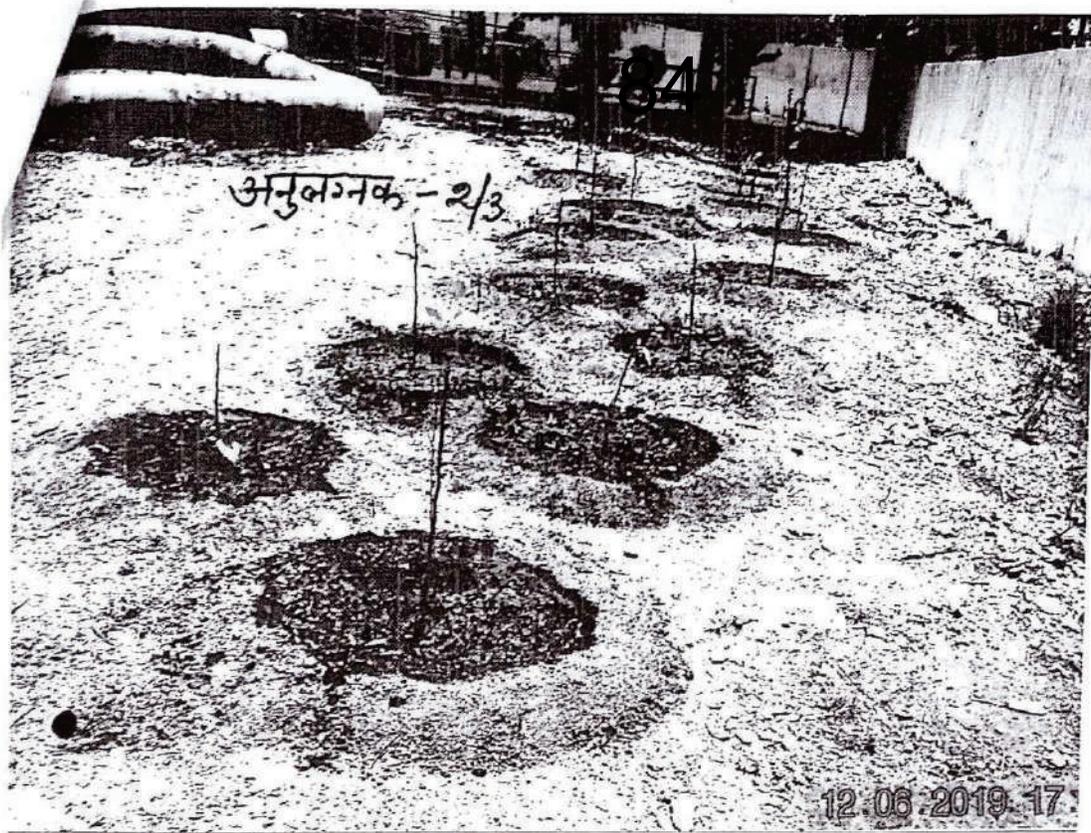
82 अनुलग्नक-1

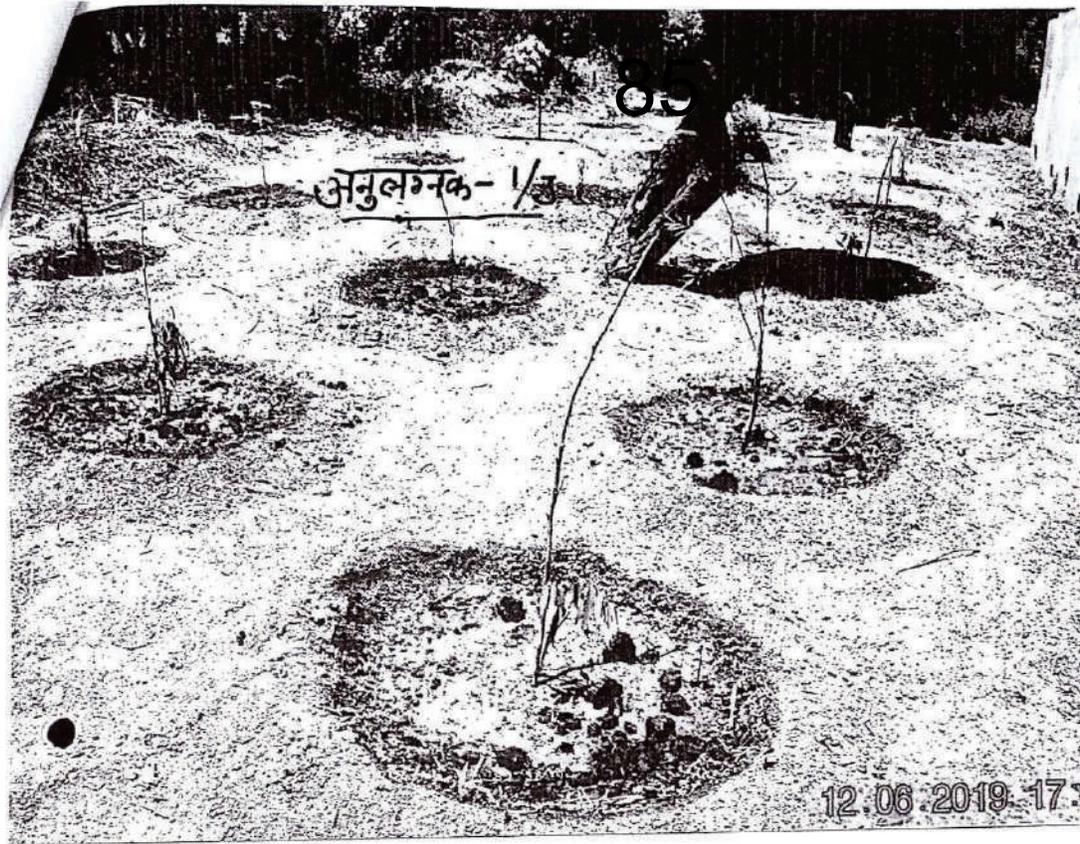
29





83  
अनुलग्नक-2

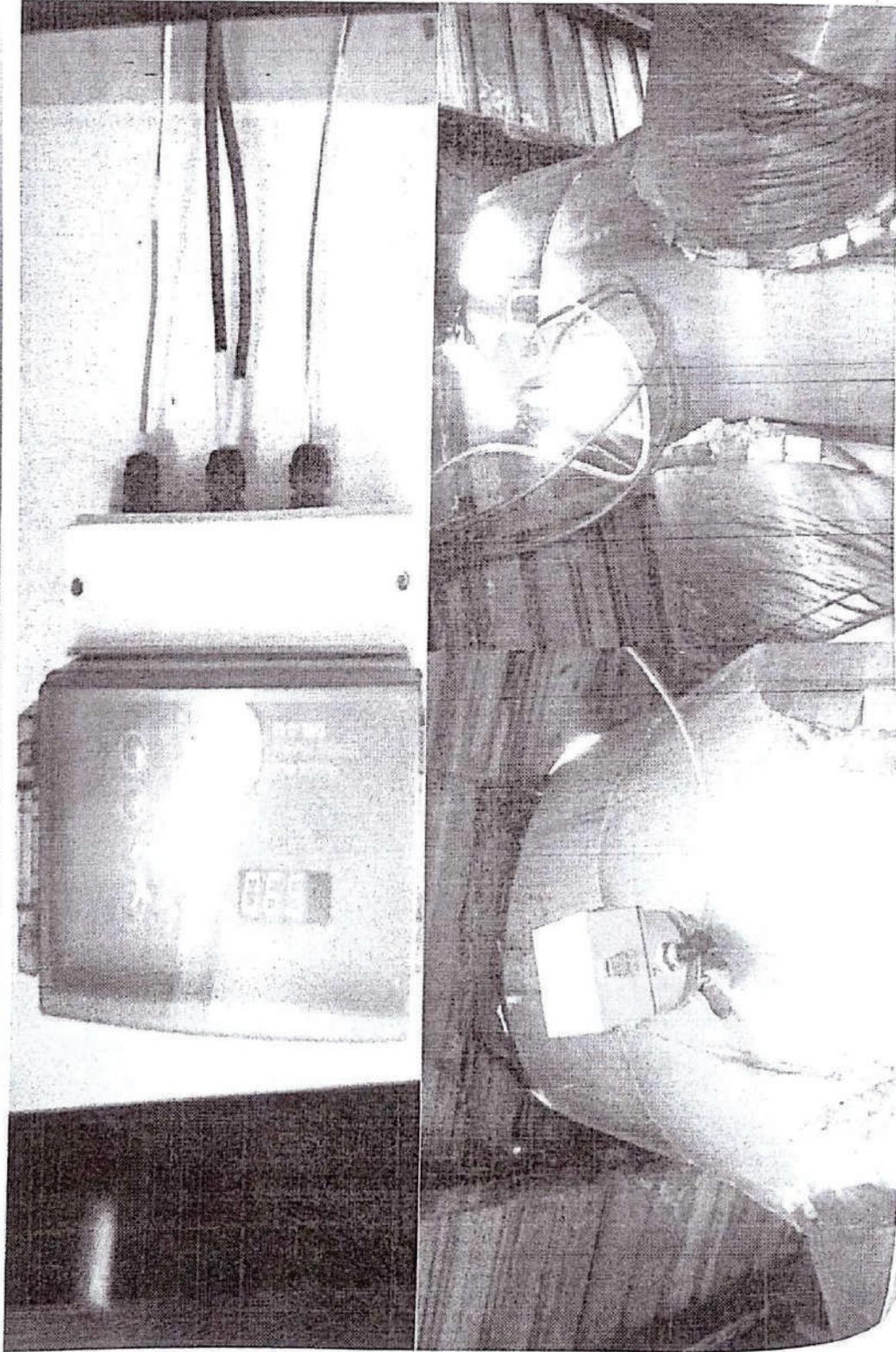






# Continuous stack monitoring system Installed at Line-2

31/3/2018-4





क्षेत्रीय कार्यालय,  
उ०प्र० प्रदूषण नियंत्रण बोर्ड,  
सोनभद्र

पत्रांक: GUP/254/2022/25/2022

दिनांक: 29/06/2022

सेवा में,

मेसर्स बिड़ला कार्बन इण्डिया प्राइवेट लिमिटेड  
(पूर्वनाम मेसर्स एस०के०आई० कार्बन ब्लैक इण्डिया प्रा०लि०),  
मुर्धवा, रेनुकूट,  
सोनभद्र।

विषय:- समन्वित शिकायत निवारण प्रणाली के अन्तर्गत आई०जी०आर०एस० सन्दर्भ सं०-40020021006687 के माध्यम से प्राप्त शिकायत के सम्बन्ध में।

महोदय,

कृपया उपरोक्त विषयक का सन्दर्भ ग्रहण करना चाहें। उक्त सम्बन्ध में अवगत कराना है कि आपके उद्योग से हो रहे वायु प्रदूषण से सम्बन्धित जन-सामान्य के माध्यम से श्री रोहित चौहान, ग्राम-मुर्धवा, ग्रामपंचायत-मुर्धवा, विकास खण्ड-म्योरपुर, तहसील-दुद्धी, जनपद-सोनभद्र द्वारा शिकायत प्राप्त हुई है कि आपके उद्योग से अत्यधिक मात्रा में कार्बन उड़ रहा है, जिसकी वजह से आस-पास के निवासियों के घरों और बाहरी सतह पर पड़ने वाली कार्बन से काफी समस्या हो रही है। शिकायती-पत्र से ऐसा प्रतीत हो रहा है कि उद्योग में स्थापित वायु प्रदूषण नियंत्रण व्यवस्थाओं को सुचारु रूप से संचालन नहीं किया जा रहा है, जो पर्यावरण अधिनियमों का उल्लंघन किया जाना दर्शाता है।

अतः आपको निर्देशित किया जाता है कि उद्योग में स्थापित वायु प्रदूषण नियंत्रण व्यवस्था का नियमित रूप से संचालन करें तथा उद्योग से उत्सर्जित गैसों एवं परिवेशीय वायु की अनुश्रवण आख्या किसी मान्यता प्राप्त प्रयोगशाला से कराकर 15 दिन के अन्दर प्रेषित करना सुनिश्चित करें। अन्यथा की दशा में आपके विरुद्ध पर्यावरण अधिनियमों के अन्तर्गत कार्यवाही प्रारम्भ कर दी जायेगी, जिसका सम्पूर्ण उत्तरदायित्व आपका स्वयं का होगा।

अतः उपरोक्तानुसार आई०जी०आर०एस० सन्दर्भ सं०-40020021006687 को इस कार्यालय स्तर से निस्तारित किया जाता है।

भवदीय,

  
29/06/22  
(राधेश्याम)

क्षेत्रीय अधिकारी

प्रतिलिपि:-

1. जिलाधिकारी महोदय, सोनभद्र को इस अनुरोध के साथ कि आई०जी०आर०एस० सन्दर्भ सं०-40020021006687 को निस्तारित करने हेतु तत्सम्बन्धी को निर्देशित करने की कृपा करें।
2. श्री रोहित चौहान (मो०नं०-8887572791), ग्राम-मुर्धवा, ग्राम पंचायत-मुर्धवा, विकास खण्ड-म्योरपुर, तहसील-दुद्धी, जनपद-सोनभद्र को उनके आई०जी०आर०एस० सन्दर्भ संख्या 40020021006687 के अनुक्रम में सूचनार्थ प्रेषित।

क्षेत्रीय अधिकारी

## ANNEXURE- C

REGIONAL OFFICE,  
UTTAR PRADESH POLLUTION CONTROL  
BOARD, SONBHADRA

Letter No. G000254/JGRS/2021  
29.06.2021

Dated

To,  
M/s Birla Carbon India Pvt. Ltd.

(Formerly M/s EraKI Carbon Black India Pvt. Ltd.), Murdhwa,  
Renukoot, Sonbhadra.

**Sub:-** Regarding the complaint received through ITGRS reference No. 40020021006687 under the Integrated Grievance Redressal System.

Sir,

Please take reference of the above-mentioned subject and in this regard, it is to be informed that a complaint was received by Shri Rohit Chauhan Gram-MurdhawaGram Panchayat-Murdhawa Development Block, MyorpurTehsil Duddhi, District Sonbhadra through the general public regarding the air pollution being caused by your industry. Your industry is emitting excessive amounts of carbon, which is causing significant problems for nearby residents due to carbon emissions from their homes and outdoor surfaces. From the complaint letter, it appears that the air pollution control systems established in the industry are not being operated smoothly, which indicates violation of environmental acts.

Therefore, you are directed to regularly operate the air pollution control system established in the industry and ensure to get the test report of gases and ambient air emitted from the industry done by a recognized laboratory and send it within 15 days, Otherwise, action will be initiated against you under environmental laws for which you will be solely responsible..

Therefore, as per above, IGRS reference No. 40020021006687 is disposed of from this office level.

Sincerely, Sd/-

(Radheshayam)

Regional Officer

Copy -

- (i) District Magistrate, Sonbhadra, with the request to kindly direct the concerned to dispose of IGRS reference No.-40020021006687.
- (ii) Sent for information to Shri Rohit Chauhan (Mob. No. 8887572791) Village Murdhawa, Gram Panchayat Murdhawa, Development Block Myorpur Tehsil Duddhi, District Sonbhadra in sequence of his IGRS reference number 40020021006887.

Regional Officer

## ECOMEN LABORATORIES PVT. LTD.

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E-mail: ravi.bhargava@gmail.com, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

ecoMen  
LABORATORIES PVT. LTD.

An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi

FORMAT NO. ECO/QS/FORMAT/12

TEST REPORT NO: ECO LAB/Stack-6/06/21

TEST REPORT ISSUE DATE: 18.06.2021

TEST REPORT OF FLUE GAS EMISSION

Name of the Customer : Birla Carbon India Pvt. Ltd.  
Unit: Renukoot  
Address of the Customer : Murdhawa Industrial Area, P.O.- Renukoot  
Distt.- Sonebhadra (U.P.)- 231217  
Sampling Method : IS: 11255  
Instrument Used : Stack Monitoring Kit  
Sample Collected by : Mr. Ashok Kumar & Mr. Maan Singh  
Date & Time of Monitoring : 09.06.2021  
Source of Emission : Stack Flue Gas Emission  
Calibration Detail : Calibration as on 19.03.2021  
Next due 18.03.2022

Details of Stack

Material of Construction : M.S.  
Stack Attached to : PGF Line-II  
Stack Height : -  
Above the Ground Level (m) : -  
Inside Diameter of Stack (m) : 0.9  
(at sampling point)  
Cross Sectional Area of Duct/Stack (m<sup>2</sup>) : 0.635  
Ambient Temp. (°C) : 35.0  
Stack Gas Temp. (°C) : 192.0  
Exit Velocity of Gas (m/sec.) : 7.88  
Flow Rate (Nm<sup>3</sup>/sec.) : 3.12  
Quantity of Fuel Consumption (Nm<sup>3</sup>/hrs.) : 4200

Sl. No.	Tests Conducted	Method	Pollutant Concentration	Standard as per CPCB in (mg/Nm <sup>3</sup> )
1.	Particulate Matter (PM) (mg/Nm <sup>3</sup> )	IS:11255 (Part-1)	88.42	150.0
2.	Sulphur Dioxide (SO <sub>2</sub> ) (mg/Nm <sup>3</sup> )	IS:11255 (Part-2)	305.64	-
3.	Nitrogen Oxides (NOx) (mg/Nm <sup>3</sup> )	IS:11255 (Part-7)	184.80	-
4.	Carbon Monoxide (CO) (mg/Nm <sup>3</sup> )	IS:5182(Part-10)	114.15	-
5.	Hydrocarbon as Methan (CH <sub>4</sub> ) in ppm	IS:5182(Part-17)	5.10	-
6.	O <sub>2</sub> in %	Flue Gas Analyzer	6.05	-
7.	CO <sub>2</sub> in %	Flue Gas Analyzer	10.42	-

Note: \*The results are related only to tested item.

*Ravi Bhargava*  
Analyst

*Renu*  
Authorized Signatory  
Ecomen Laboratories Pvt. Ltd.  
Flat No.-8, 2nd Floor, Arif Chamber-V  
Sector-H, Aliganj, Lucknow-226024  
Ph-2746282, Fax:2745726

*Ashok Kumar*  
Manager (Q)





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दिनांक 9 जुलाई 2021

सेवा में,

क्षेत्रीय अधिकारी महोदय,  
क्षेत्रीय कार्यालय  
उ०प्र० प्रदूषण नियंत्रण बोर्ड  
ग०स० 162, उत्तर मोहाल (निकट चण्डी होटल)  
रावर्टसगंज, सोनभद्र।

विषय : - समन्वित शिकायत निवारण प्रणाली के अन्तर्गत आइ ० जी ० आर ० एस ० संदर्भ सं०-40020021006687 के माध्यम से प्राप्त शिकायत के सम्बन्ध में।

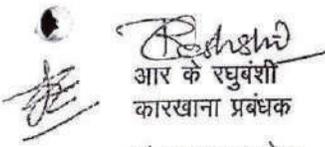
महोदय,

कृपया आप के पत्रांक G000254/ आईजीआरएस/ 2021 दिनांक 29 जून 2021 का संदर्भ ग्रहण करें जिसमें श्री रोहित चौहान की शिकायत के संदर्भ में आपके द्वारा उद्योग में स्थापित वायु प्रदूषण नियंत्रण व्यवस्था का नियमित रूप से संचालन करें तथा उद्योग से उत्सर्जित गैसों एवं परिवेशीय वायु की अनुश्रवण आख्या किसी मान्यता प्राप्त प्रयोगशाला से कराकर 15 दिन के अन्दर प्रेषित करने का निर्देश दिया था।

उक्त के अनुपालन में Ecomen Laboratories Pvt. LTD, Lucknow की Ambient Air की टेस्ट रिपोर्ट आपके सूचनार्थ हेतु संलग्न है।

धन्यवाद,

भवदीय  
कृते बिरला कार्बन इण्डिया प्रा०लि०  
(यूनिट- रेनुकूट)



आर के रघुवंशी  
कारखाना प्रबंधक

संलग्नक: उपरोक्त

प्रतिलिपि: सूचनार्थ हेतु

1- माननीय जिलाधिकारी सोनभद्र

Birla Carbon India Private Limited  
(Formerly known as SKI Carbon Black (India) Private Limited)  
Unit : Renukoot

Murdhwa Indl. Area, P.O. Renukoot, Dist. Sonbhadra - 231 217, U.P., India

To,

Date 9th July 2021

The Regional Officer,  
Regional Office  
Uttar Pradesh Pollution Control Board  
M.S. 162, North Mohal (Near Chandi Hotel)  
Robertsganj, Sonbhadra.

**Subject:** - Regarding the complaint received through IGRS reference number 40020021006687 under the Integrated Grievance Redressal System.

Sir,

Please refer to your letter number G000254/IGRS/2021 dated 29 June 2021, in which, in the context of the complaint of Sh. Rohit Chauhan, regularly operate the air pollution control system established by you in the industry and Instructions were given to get the monitoring report of gases emitted from the industry and ambient air from a recognized laboratory and send it within 15 days.

In compliance with the above Ecomen Laboratories Pvt. The test report of Ambient Air of LTD, Lucknow is attached for your information.

Thank you,

Sincerely  
Krite Birla Carbon India Pvt. Ltd.  
(Unit- Renukoot)

Sd/-  
RK Raghuvanshi  
Factory Manager  
Attachment: above  
Copy for information  
1. Hon'ble District Magistrate Sonbhadra

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E-mail: ravi.bhargava@gmail.com, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

ecomen  
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An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi

FORMAT NO. ECO/QS/FORMAT/10

TEST REPORT NO: ECO LAB/AAQ-1/06/21

TEST REPORT ISSUE DATE: 18.06.2021

TEST REPORT OF AMBIENT AIR\*

Name of the Customer : Birla Carbon India Pvt. Ltd.  
Unit: Renukoot  
Address of the Customer : Murdhawa Industrial Area, P.O.- Renukoot  
Distt.- Sonbhadra (U.P.)- 231217  
Sample Collected By : Mr. Ashok Kumar & Mr. Maan Singh  
Sampling Method : IS: 5182  
Date of Sampling : 08.06.2021  
Date of Testing : 14.06.2021 to 18.06.2021  
Environmental Condition : A.Temp(°C) : 42°C, Humidity(%) : 74,  
Weather Condition – Cloudy  
Instrument Used : RDS & FDS  
Location : Near Main Gate  
Calibration Detail : Calibration as on 28.06.2020  
Next due 27.09.2021

Sl. No.	Tests Conducted	Method	Results	NAAQ Standards as per CPCB, New Delhi, Nov. 18 <sup>th</sup> , 2009
1	PM <sub>10</sub> (µg/m <sup>3</sup> )	IS:5182(Part-23)	60.23	100
2	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	IS:5182(Part-24)	36.90	60
3	SO <sub>2</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-2)	12.20	80
4	NO <sub>x</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-6)	25.60	80
5	NH <sub>3</sub> (µg/m <sup>3</sup> )	IS:5182(Part-25)	42.08	400
6	O <sub>3</sub> (µg/m <sup>3</sup> )	IS:5182(Part-9)	18.92	180
7	CO (mg/m <sup>3</sup> )	IS:5182 (Part-10)	1.86	4.0
8	Pb(µg/m <sup>3</sup> )	IS:5182(Part-22)	BDL	1.0
9	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	IS:5182(Part-11)	BDL	05
10	BaP (ng/m <sup>3</sup> )	IS:5182(Part-12)	BDL	01
11	As (ng/m <sup>3</sup> )	NAAQM Guideline Volume-I by CPCB	BDL	06
12	Ni (ng/m <sup>3</sup> )	IS:5182(Part-26)	1.84	20

\*The results is related only to tested item.

Note: Below Detection Limit

Analyst

Authorized Signatory  
Eccomen Laboratories Pvt. Ltd.  
Flat No.-8, 2nd Floor, Arif Chamber-V  
Sector-H, Aliganj, Lucknow-226024  
Ph.-2746282, Fax:2745726

Manager (Q)



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FORMAT NO. ECO/QS/FORMAT/12

TEST REPORT NO: ECO LAB/Stack-5/06/21

TEST REPORT ISSUE DATE: 18.06.2021

TEST REPORT OF FLUE GAS EMISSION

Name of the Customer : Birla Carbon India Pvt. Ltd.  
Unit: Renukoot  
Address of the Customer : Murdhawa Industrial Area, P.O.- Renukoot  
Distt.- Sonbhadra (U.P.)- 231217  
Sampling Method : IS: 11255  
Instrument Used : Stack Monitoring Kit  
Sample Collected by : Mr. Ashok Kumar & Mr. Maan Singh  
Date & Time of Monitoring : 09.06.2021  
Source of Emission : Stack Flue Gas Emission  
Calibration Detail : Calibration as on 19.03.2021  
Next due 18.03.2022

Details of Stack

Material of Construction : M.S.  
Stack Attached to : PGF Line-1  
Stack Height  
Above the Ground Level (m) : -  
Inside Diameter of Stack (m) : 0.9  
(at sampling point)  
Cross Sectional Area of Duct/Stack (m<sup>2</sup>) : 0.635  
Ambient Temp. (°C) : 34.0  
Stack Gas Temp. (°C) : 221.0  
Exit Velocity of Gas (m/sec.) : 7.98  
Flow Rate (Nm<sup>3</sup>/sec.) : 2.97  
Quantity of Fuel Consumption (Nm<sup>3</sup>/hrs.) : 5750

Sl. No.	Tests Conducted	Method	Pollutant Concentration	Standard as per CPCB in (mg/Nm <sup>3</sup> )
1.	Particulate Matter (PM) (mg/Nm <sup>3</sup> )	IS:11255 (Part-1)	85.54	150.0
2.	Sulphur Dioxide (SO <sub>2</sub> ) (mg/Nm <sup>3</sup> )	IS:11255 (Part-2)	345.60	-
3.	Nitrogen Oxides (NOx) (mg/Nm <sup>3</sup> )	IS:11255 (Part-7)	234.28	-
4.	Carbon Monoxide (CO) (mg/Nm <sup>3</sup> )	IS:5182(Part-10)	116.42	-
5.	Hydrocarbon as Methan (CH <sub>4</sub> ) in ppm	IS:5182(Part-17)	6.05	-
6.	O <sub>2</sub> in %	Flue Gas Analyzer	6.24	-
7.	CO <sub>2</sub> in %	Flue Gas Analyzer	9.66	-

Note: \*The results are related only to tested item.

Analyst

Authorized Signatory  
Renukoot  
Ecomen Laboratories Pvt. Ltd.  
Flat No.-8, 2nd Floor, Arif Chamber-V  
Sector-II, Aliganj, Lucknow-226024  
Ph-2746282, Fax:2745726

Manager (Q)



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FORMAT NO. ECO/QS/FORMAT/12

TEST REPORT NO: ECO LAB/Stack-4/06/21

TEST REPORT ISSUE DATE: 18.06.2021

TEST REPORT OF FLUE GAS EMISSION

Name of the Customer : Birla Carbon India Pvt. Ltd.  
Unit: Renukoot  
Address of the Customer : Murdhawa Industrial Area, P.O.- Renukoot  
Distt.- Sonbhadra (U.P.)- 231217  
Sampling Method : IS: 11255  
Instrument Used : Stack Monitoring Kit  
Sample Collected by : Mr. Ashok Kumar & Mr. Maan Singh  
Date & Time of Monitoring : 08.06.2021  
Source of Emission : Stack Flue Gas Emission  
Calibration Detail : Calibration as on 19.03.2021  
Next due 18.03.2022

Details of Stack

Material of Construction : M.S.  
Stack Attached to : Boiler Line-II  
Stack Height  
Above the Ground Level (m) : 82.0  
Inside Diameter of Stack (m) : 3.5  
(at sampling point)  
Cross Sectional Area of Duct/Stack (m<sup>2</sup>) : 9.62  
Ambient Temp. (°C) : 32.0  
Stack Gas Temp. (°C) : 224.0  
Exit Velocity of Gas (m/sec.) : 8.58  
Flow Rate (Nm<sup>3</sup>/sec.) : 48.26  
Quantity of Fuel Consumption (Nm<sup>3</sup>/hrs.) : 50000

Sl. No.	Tests Conducted	Method	Pollutant Concentration	Standard as per CPCB in (mg/Nm <sup>3</sup> )
1.	Particulate Matter (PM) (mg/Nm <sup>3</sup> )	IS:11255 (Part-1)	58.50	150.0
2.	Sulphur Dioxide (SO <sub>2</sub> ) (mg/Nm <sup>3</sup> )	IS:11255 (Part-2)	645.20	-
3.	Nitrogen Oxides (NOx) (mg/Nm <sup>3</sup> )	IS:11255 (Part-7)	315.60	-
4.	Carbon Monoxide (CO) (mg/Nm <sup>3</sup> )	IS:5182(Part-10)	2.60	-
5.	Hydrocarbon as Methan (CH <sub>4</sub> ) in ppm	IS:5182(Part-17)	7.40	-
6.	Hydrocarbon as Non Methan in ppm	IS:5182(Part-17)	BDL	-
7.	O <sub>2</sub> in %	Flue Gas Analyzer	5.20	-
8.	CO <sub>2</sub> in %	Flue Gas Analyzer	10.50	-

Note: \*The results are related only to tested item.

Ashok Kumar  
Analyst

Reena  
Authorized Signatory  
Ecomen Laboratories Pvt. Ltd.  
Flat No. -8, 2nd Floor, Arif Chamber-V  
Sector-H, Aliganj, Lucknow-226024  
Ph.-2746282, Fax:2745726

Manager (Q)



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E-mail: ravi.bhargava@gmail.com, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE5076H1Z1

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LABORATORIES PVT LTD

An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi

FORMAT NO. ECO/QS/FORMAT/12

TEST REPORT NO: ECO LAB/Stack-3/06/21

TEST REPORT ISSUE DATE: 18.06.2021

TEST REPORT OF FLUE GAS EMISSION

Name of the Customer : Birla Carbon India Pvt. Ltd.  
Unit: Renukoot  
Address of the Customer : Murdhawa Industrial Area, P.O.- Renukoot  
Distt.- Sonebhadra (U.P.)- 231217  
Sampling Method : IS: 11255  
Instrument Used : Stack Monitoring Kit  
Sample Collected by : Mr. Ashok Kumar & Mr. Maan Singh  
Date & Time of Monitoring : 08.06.2021  
Source of Emission : Stack Flue Gas Emission  
Calibration Detail : Calibration as on 19.03.2021  
Next due 18.03.2022

Details of Stack

Material of Construction : M.S.  
Stack Attached to : Boiler Line-1  
Stack Height  
Above the Ground Level (m) : 75.0  
Inside Diameter of Stack (m) : 3.5  
(at sampling point)  
Cross Sectional Area of Duct/Stack (m<sup>2</sup>) : 9.62  
Ambient Temp. (°C) : 36.0  
Stack Gas Temp. (°C) : 231.0  
Exit Velocity of Gas (m/sec.) : 8.73  
Flow Rate (Nm<sup>3</sup>/sec.) : 48.37  
Quantity of Fuel Consumption (Nm<sup>3</sup>/hrs.) : 31000

Sl. No.	Tests Conducted	Method	Pollutant Concentration	Standard as per CPCB in (mg/Nm <sup>3</sup> )
1.	Particulate Matter (PM) (mg/Nm <sup>3</sup> )	IS:11255 (Part-1)	92.42	150.0
2.	Sulphur Dioxide (SO <sub>2</sub> ) (mg/Nm <sup>3</sup> )	IS:11255 (Part-2)	686.24	-
3.	Nitrogen Oxides (NOx) (mg/Nm <sup>3</sup> )	IS:11255 (Part-7)	368.58	-
4.	Carbon Monoxide (CO) (mg/Nm <sup>3</sup> )	IS:5182(Part-10)	4.16	-
5.	Hydrocarbon as Methan (CH <sub>4</sub> ) in ppm	IS:5182(Part-17)	5.05	-
6.	Hydrocarbon as Non Methan in ppm	IS:5182(Part-17)	BDL	-
7.	O <sub>2</sub> in %	Flue Gas Analyzer	5.10	-
8.	CO <sub>2</sub> in %	Flue Gas Analyzer	13.15	-

Note: \*The results are related only to tested item.

Analyst

Authorized Signatory  
Renukoot  
Ecomen Laboratories Pvt. Ltd.  
Flat No. -8, 2nd Floor, Arif Chamber-V  
Sector-H, Aliganj, Lucknow-226024  
Ph:-2746282, Fax:2745726

Manager (Q)



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E-mail: ravi.hargava@gmail.com, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

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LABORATORIES PVT LTD

An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi

FORMAT NO. ECO/QS/FORMAT/12

TEST REPORT NO: ECO LAB/Stack-2/06/21

TEST REPORT ISSUE DATE: 18.06.2021

TEST REPORT OF FLUE GAS EMISSION

Name of the Customer : Birla Carbon India Pvt. Ltd.  
Unit: Renukoot  
Address of the Customer : Murdhawa Industrial Area, P.O.- Renukoot  
Distt.- Sonbhadra (U.P.)- 231217  
Sampling Method : IS: 11255  
Instrument Used : Stack Monitoring Kit  
Sample Collected by : Mr. Ashok Kumar & Mr. Maan Singh  
Date & Time of Monitoring : 09.06.2021  
Source of Emission : Stack Flue Gas Emission  
Calibration Detail : Calibration as on 19.03.2021  
Next due 18.03.2022

Details of Stack

Material of Construction : M.S.  
Stack Attached to : Dryer Line-II  
Stack Height  
Above the Ground Level (m) : 50.50  
Inside Diameter of Stack (m) : 1.66  
(at sampling point)  
Cross Sectional Area of Duct/Stack (m<sup>2</sup>) : 2.16  
Ambient Temp. (°C) : 33.0  
Stack Gas Temp. (°C) : 173.0  
Exit Velocity of Gas (m/sec.) : 7.72  
Flow Rate (Nm<sup>3</sup>/sec.) : 10.85  
Quantity of Fuel Consumption (Nm<sup>3</sup>/hrs.) : 4500

Sl. No.	Tests Conducted	Method	Pollutant Concentration	Standard as per CPCB in (mg/Nm <sup>3</sup> )
1.	Particulate Matter (PM) (mg/Nm <sup>3</sup> )	IS:11255 (Part-1)	85.64	150.0
2.	Sulphur Dioxide (SO <sub>2</sub> ) (mg/Nm <sup>3</sup> )	IS:11255 (Part-2)	368.14	-
3.	Nitrogen Oxides (NOx) (mg/Nm <sup>3</sup> )	IS:11255 (Part-7)	192.30	-
4.	Carbon Monoxide (CO) (mg/Nm <sup>3</sup> )	IS:5182(Part-10)	7.23	-
5.	Hydrocarbon as Methan (CH <sub>4</sub> ) in ppm	IS:5182(Part-17)	5.86	-
6.	O <sub>2</sub> in %	Flue Gas Analyzer	6.12	-
7.	CO <sub>2</sub> in %	Flue Gas Analyzer	11.24	-

Note: \*The results are related only to tested item.

Analyst

Authorized Signatory  
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Ecomen Laboratories Pvt. Ltd.  
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Sector-H, Aliganj, Lucknow-226024  
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Manager (Q)



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ecoMen  
 LABORATORIES PVT. LTD.

An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi

FORMAT NO. ECO/QS/FORMAT/12

TEST REPORT NO: ECO LAB/Stack-1/06/21

TEST REPORT ISSUE DATE: 18.06.2021

TEST REPORT OF FLUE GAS EMISSION

Name of the Customer : **Birla Carbon India Pvt. Ltd.**  
 Unit: Renukoot  
 Address of the Customer : Murdhawa Industrial Area, P.O.- Renukoot  
 Distt.- Sonbhadra (U.P.)- 231217  
 Sampling Method : IS: 11255  
 Instrument Used : Stack Monitoring Kit  
 Sample Collected by : Mr. Ashok Kumar & Mr. Maan Singh  
 Date & Time of Monitoring : 09.06.2021  
 Source of Emission : **Stack Flue Gas Emission**  
 Calibration Detail : Calibration as on 19.03.2021  
 Next due 18.03.2022

Details of Stack

Material of Construction : M.S.  
 Stack Attached to : Dryer Line-I  
 Stack Height  
 Above the Ground Level (m) : 45.50  
 Inside Diameter of Stack (m) : 1.5  
 (at sampling point)  
 Cross Sectional Area of Duct/Stack (m<sup>2</sup>) : 1.77  
 Ambient Temp. (°C) : 33.0  
 Stack Gas Temp. (°C) : 171.0  
 Exit Velocity of Gas (m/sec.) : 7.86  
 Flow Rate (Nm<sup>3</sup>/sec.) : 9.09  
 Quantity of Fuel Consumption (Nm<sup>3</sup>/hrs.) : 3000

Sl. No.	Tests Conducted	Method	Pollutant Concentration	Standard as per CPCB in (mg/Nm <sup>3</sup> )
1.	Particulate Matter (PM) (mg/Nm <sup>3</sup> )	IS:11255 (Part-1)	84.26	150.0
2.	Sulphur Dioxide (SO <sub>2</sub> ) (mg/Nm <sup>3</sup> )	IS:11255 (Part-2)	256.20	-
3.	Nitrogen Oxides (NO <sub>x</sub> ) (mg/Nm <sup>3</sup> )	IS:11255 (Part-7)	168.50	-
4.	Carbon Monoxide (CO) (mg/Nm <sup>3</sup> )	IS:5182(Part-10)	5.12	-
5	Hydrocarbon as Methan (CH <sub>4</sub> ) in ppm	IS:5182(Part-17)	5.98	-
6	O <sub>2</sub> in %	Flue Gas Analyzer	5.62	-
7	CO <sub>2</sub> in %	Flue Gas Analyzer	11.25	-

Note: \*The results are related only to tested item.

*Ravi Bhargava*  
 Analyst

*Renukoot*  
 Authorized Signatory  
 Ecomen Laboratories Pvt. Ltd.  
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 Sector-H, Aliganj, Lucknow-226024  
 Ph.-2746282, Fax:2745726

*Manager*  
 Manager (Q)



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 E-mail: ravi.bhargava@gmail.com, Website: www.ecomen.in, CIN - U74210UP1989PTCO10501, GSTIN : 09AAACE6076H1Z1

ecoMen  
 LABORATORIES PVT. LTD.

An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi

FORMAT NO. ECO/QS/FORMAT/10

TEST REPORT NO: ECO LAB/AAQ-4/06/21  
 TEST REPORT ISSUE DATE: 18.06.2021

TEST REPORT OF AMBIENT AIR\*

Name of the Customer : Birla Carbon India Pvt. Ltd.  
 Unit: Renukoot  
 Address of the Customer : Murdhawa Industrial Area, P.O.- Renukoot  
 Distt.- Sonebhadra (U.P.)- 231217  
 Sample Collected By : Mr. Ashok Kumar & Mr. Maan Singh  
 Sampling Method : IS: 5182  
 Date of Sampling : 09.06.2021  
 Date of Testing : 14.06.2021 to 17.06.2021  
 Environmental Condition : A.Temp(°C) : 36°C, Humidity(%) : 68,  
 Weather Condition – Cloudy  
 Instrument Used : RDS & FDS  
 Location : Admin Building  
 Calibration Detail : Calibration as on 28.06.2020  
 Next due 27.09.2021

Sl. No.	Tests Conducted	Method	Results	NAAQ Standards as per CPCB, New Delhi, Nov. 18 <sup>th</sup> , 2009
1	PM <sub>10</sub> (µg/m <sup>3</sup> )	IS:5182(Part-23)	61.42	100
2	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	IS:5182(Part-24)	39.80	60
3	SO <sub>2</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-2)	14.60	80
4	NO <sub>x</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-6)	23.60	80
5	NH <sub>3</sub> (µg/m <sup>3</sup> )	IS:5182(Part-25)	28.40	400
6	O <sub>3</sub> (µg/m <sup>3</sup> )	IS:5182(Part-9)	17.43	180
7	CO (mg/m <sup>3</sup> )	IS:5182 (Part-10)	1.02	4.0
8	Pb(µg/m <sup>3</sup> )	IS:5182(Part-22)	BDL	1.0
9	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	IS:5182(Part-11)	BDL	05
10	BaP (ng/m <sup>3</sup> )	IS:5182(Part-12)	BDL	01
11	As (ng/m <sup>3</sup> )	NAAQM Guideline Volume-I by CPCB	BDL	06
12	Ni (ng/m <sup>3</sup> )	IS:5182(Part-26)	1.28	20

\*The results is related only to tested item.

Note: Below Detection Limit

*Ravi Bhargava*  
 Analyst

*Ravi Bhargava*  
 Authorized Signatory  
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 Ph.-2746282, Fax:2745726

*Ravi Bhargava*  
 Manager (Q)



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ecomen  
LABORATORIES PVT LTD

An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi

FORMAT NO. ECO/QS/FORMAT/10

TEST REPORT NO: ECO LAB/AAQ-3/06/21

TEST REPORT ISSUE DATE: 18.06.2021

**TEST REPORT OF AMBIENT AIR\***

Name of the Customer : Birla Carbon India Pvt. Ltd.  
Unit: Renukoot  
Address of the Customer : Murdhawa Industrial Area, P.O.- Renukoot  
Distt.- Sonebhadra (U.P.)- 231217  
Sample Collected By : Mr. Ashok Kumar & Mr. Maan Singh  
Sampling Method : IS: 5182  
Date of Sampling : 09.06.2021  
Date of Testing : 14.06.2021 to 17.06.2021  
Environmental Condition : A.Temp(°C) : 36°C, Humidity(%) : 68,  
Weather Condition – Cloudy  
Instrument Used : RDS & FDS  
Location : Fire Pump House  
Calibration Detail : Calibration as on 28.06.2020  
Next due 27.09.2021

Sl. No.	Tests Conducted	Method	Results	NAAQ Standards as per CPCB, New Delhi, Nov. 18 <sup>th</sup> , 2009
1	PM <sub>10</sub> (µg/m <sup>3</sup> )	IS:5182(Part-23)	59.50	100
2	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	IS:5182(Part-24)	31.60	60
3	SO <sub>2</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-2)	12.30	80
4	NO <sub>x</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-6)	23.60	80
5	NH <sub>3</sub> (µg/m <sup>3</sup> )	IS:5182(Part-25)	41.20	400
6	O <sub>3</sub> (µg/m <sup>3</sup> )	IS:5182(Part-9)	16.98	180
7	CO (mg/m <sup>3</sup> )	IS:5182 (Part-10)	1.53	4.0
8	Pb(µg/m <sup>3</sup> )	IS:5182(Part-22)	BDL	1.0
9	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	IS:5182(Part-11)	BDL	05
10	BaP (ng/m <sup>3</sup> )	IS:5182(Part-12)	BDL	01
11	As (ng/m <sup>3</sup> )	NAAQM Guideline Volume-I by CPCB	BDL	06
12	Ni (ng/m <sup>3</sup> )	IS:5182(Part-26)	1.24	20

\*The results is related only to tested item.

Note: Below Detection Limit

Analyst

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Sector-H, Aliganj, Lucknow-226024  
Ph.-2746282, Fax:2745726

Manager (Q)



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 E-mail: ravi.hargava@gmail.com, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE076H1Z1

**ecomen**  
 LABORATORIES PVT. LTD.

An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi

FORMAT NO. ECO/QS/FORMAT/10

TEST REPORT NO: ECO LAB/AAQ-2/06/21  
 TEST REPORT ISSUE DATE: 18.06.2021

**TEST REPORT OF AMBIENT AIR\***

Name of the Customer : **Birla Carbon India Pvt. Ltd.**  
 Unit: **Renukoot**  
 Address of the Customer : **Murdhawa Industrial Area, P.O.- Renukoot**  
 Distt.- **Sonebhadra (U.P.)- 231217**  
 Sample Collected By : **Mr. Ashok Kumar & Mr. Maan Singh**  
 Sampling Method : **IS: 5182**  
 Date of Sampling : **08.06.2021**  
 Date of Testing : **14.06.2021 to 17.06.2021**  
 Environmental Condition : **A.Temp(°C) : 42°C, Humidity(%) : 74,**  
**Weather Condition – Cloudy**  
 Instrument Used : **RDS & FDS**  
 Location : **Near TG-4**  
 Calibration Detail : **Calibration as on 28.06.2020**  
**Next due 27.09.2021**

Sl. No.	Tests Conducted	Method	Results	NAAQ Standards as per CPCB, New Delhi, Nov. 18 <sup>th</sup> , 2009
1	PM <sub>10</sub> (µg/m <sup>3</sup> )	IS:5182(Part-23)	65.40	100
2	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	IS:5182(Part-24)	40.23	60
3	SO <sub>2</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-2)	12.60	80
4	NO <sub>x</sub> (µg/m <sup>3</sup> )	IS:5182 (Part-6)	22.10	80
5	NH <sub>3</sub> (µg/m <sup>3</sup> )	IS:5182(Part-25)	36.90	400
6	O <sub>3</sub> (µg/m <sup>3</sup> )	IS:5182(Part-9)	18.98	180
7	CO (mg/m <sup>3</sup> )	IS:5182 (Part-10)	1.32	4.0
8	Pb(µg/m <sup>3</sup> )	IS:5182(Part-22)	BDL	1.0
9	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	IS:5182(Part-11)	BDL	05
10	BaP (ng/m <sup>3</sup> )	IS:5182(Part-12)	BDL	01
11	As (ng/m <sup>3</sup> )	NAAQM Guideline Volume-I by CPCB	BDL	06
12	Ni (ng/m <sup>3</sup> )	IS:5182(Part-26)	1.42	20

\*The results is related only to tested item.

Note: Below Detection Limit

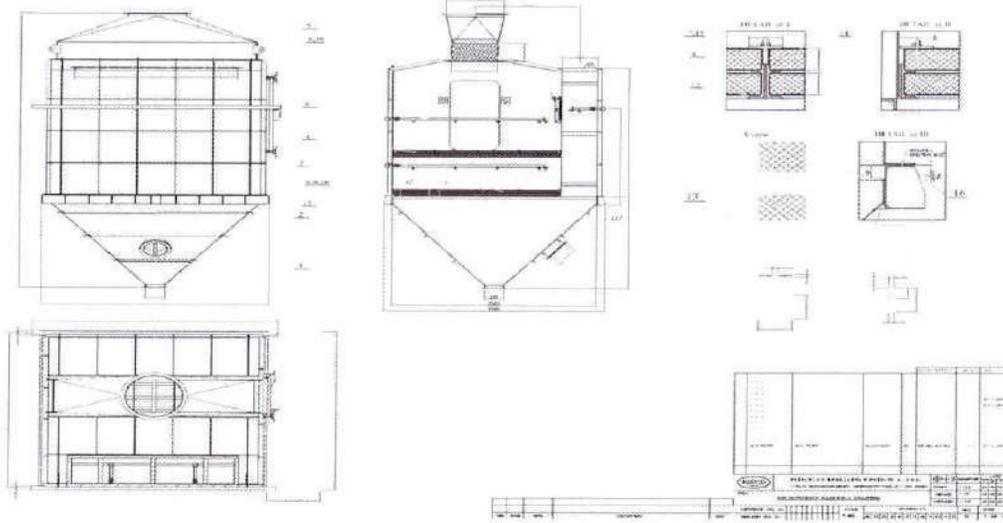
*Ravi Hargava*  
 Analyst

*Ravi Hargava*  
 Authorized Signatory  
 Ecomenz Laboratories Pvt. Ltd.  
 Flat No. -8, 2nd Floor, Arif Chamber-V  
 Sector-H, Aliganj, Lucknow-226024  
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*Ashok Kumar*  
 Manager (Q)



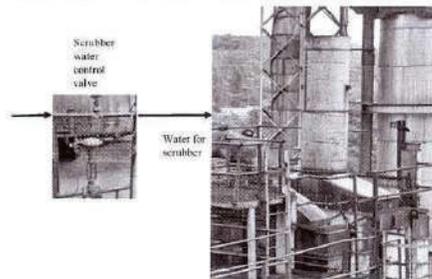
### Wet Scrubber Drawing



7

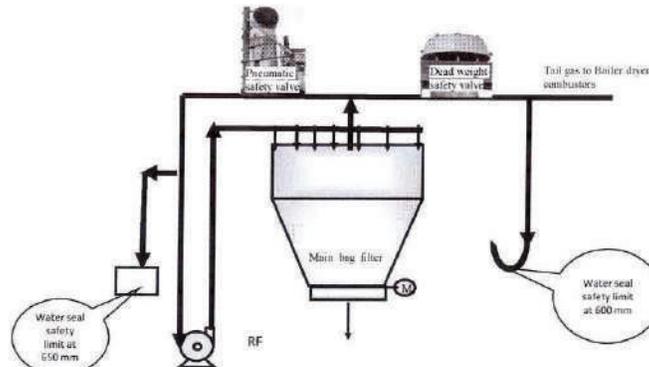
#### Conditions when reactor vent scrubber in line:-

- Whenever reactor under heating & cooling vent scrubber in line.
- When reactor made off spec for grade change over vent scrubber in line.
- Whenever any emergency shut down reactor vented out from MBF vent scrubber in line.



#### Safety device in MBF operation

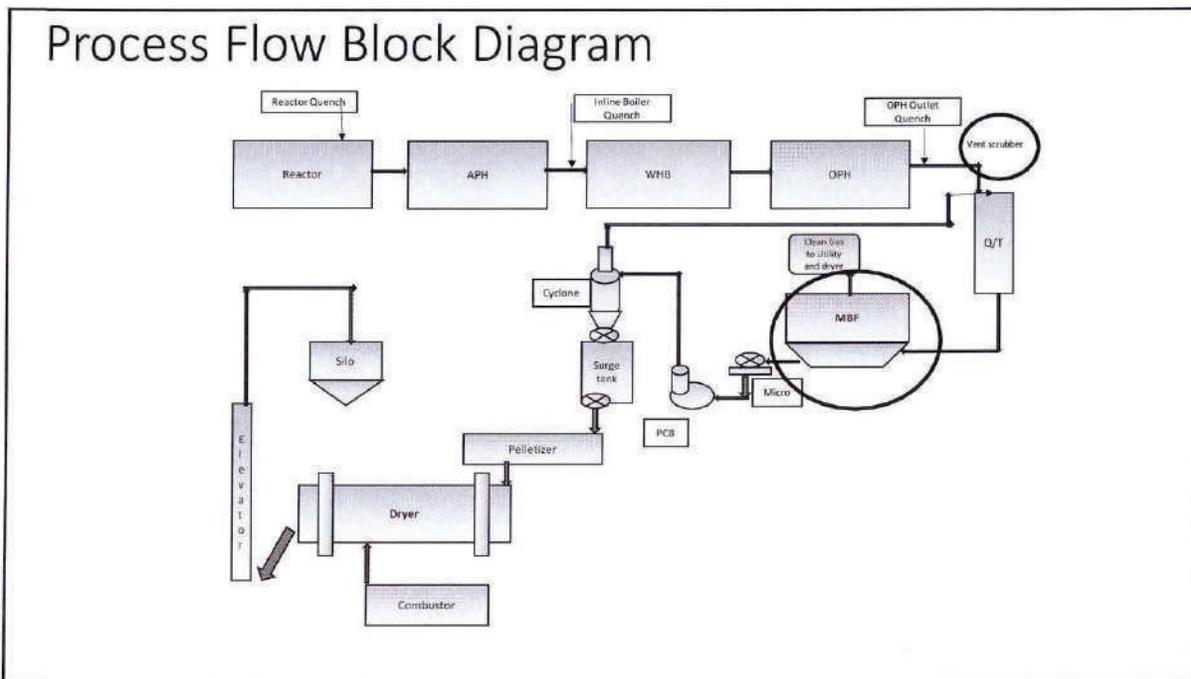
- Pneumatic safety valve
- Dead safety valve
- Off gas header water seal
- RA fan line water seal
- Automatic shut down system in DCS.



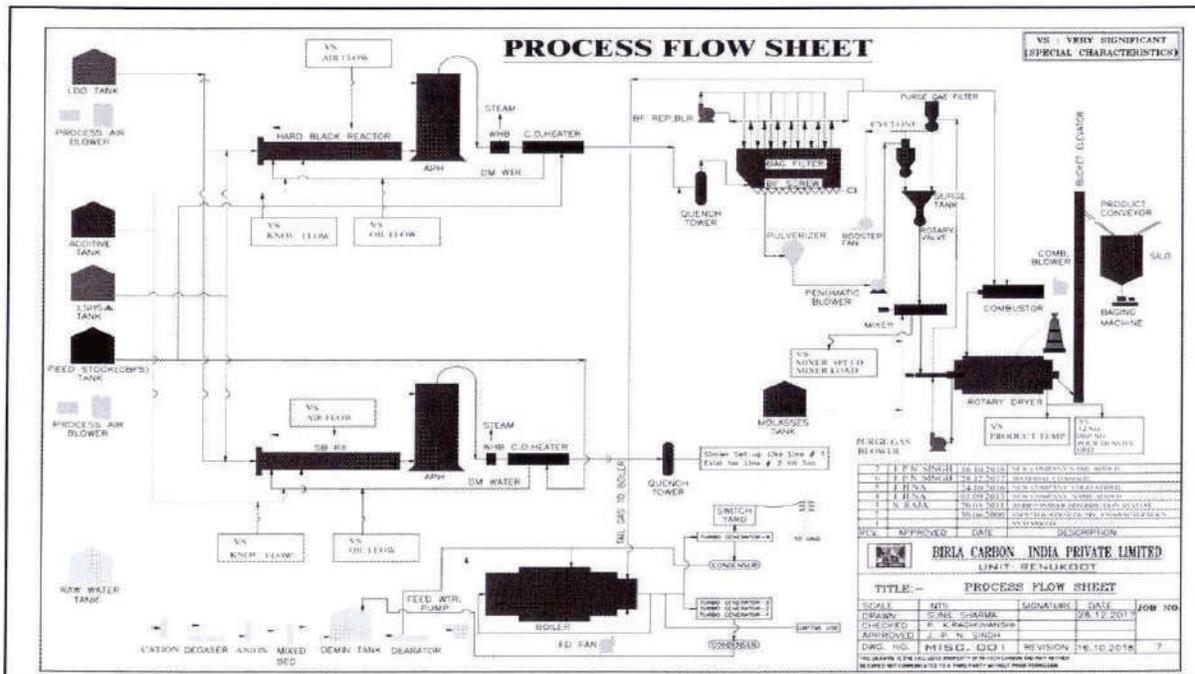
8

Vent scrubber discharge(Clean Air)  
after scrubbing





3



4

12<sup>th</sup> September 2020

To,

The Unit Head  
Birla Carbon India Pvt Ltd.  
UPSIDC Industrial Area, Murdhwa  
Renukoot, Sonbhadra, UP

14/09/20  
may be  
12.9.2020

Through Unit HR Head

Sub. Early Retirement -VRS

Dear Sir,

I would like to inform you, that due to my family commitments, I would like to opt early retirement.

You are requested to relieve me from the services from 12<sup>th</sup> September 2020.

Sincerely,

Pankaj Srivastava

(Pankaj Srivastava)

E.Code :- 007675

Department : Safety



Ref. No. RET- RHR/02/2020

September 29, 2020

To  
Mr. Pankaj Srivastava  
Sonebhadra,  
Renukoot

Sub –Full time retainer-ship

Dear Mr. Pankaj Srivastava,

We are pleased to extend you the offer for full time retainer-ship for one year starting from 1<sup>st</sup> October, 2020 to 30<sup>th</sup> September, 2021.

During the retainer-ship, you will report to Mr. J. P. N. Singh – Unit Head, Birla Carbon Renukoot, and work on his specific instructions. You will keep him apprised regarding progress, while working efficiently and diligently to the best of your ability in the interest of company.

You will be paid consolidated amount of Rs. 1,00,000/- per month (Rs. One Lakhs Per Month) as a retainer-ship charge, (subject to applicable statutory deductions such as TDS). You will also be provided company accommodation.

You will be entitled to avail Leave as per the applicable guidelines during your retainer-ship subject to prior approval of your Manager.

During the retainer-ship period you will not work directly or indirectly for any other person, or company whether with or without remuneration nor engage yourself in any kind of trade or business.

You will maintain the confidentiality of the information and knowledge regarding our business and will not divulge to any person, firm or company.

During the retainer-ship, if at any point of time, you are found guilty of any misconduct or wilful breach or neglect of the terms of this agreement, the company will terminate the retainer-ship without any prior notice or payment in lieu of.

This contract may be terminated with one-month advance notice from either side in writing.

We request you to kindly return the duplicate copy of this letter duly signed as a token of your acceptance.

We look forward to your fruitful engagement with the organization.

Thanking you,

(Shishir Misra)  
SVP & Head HR – Asia  
Birla Carbon

Birla Carbon India Private Limited

(Formerly known as SKI Carbon Black (India) Private Limited)

201, 'B' Wing, Ahura Centre, Near MIDC Office, Mahakali Caves Road, Andheri (East), Mumbai 400 093, India  
T : +91 22 6692 8513 | F : +91 22 6692 8501 | W : www.birlacarbon.com | CIN : U23201MH2013PTC241741

Regd. Office : Aditya Birla Centre, S. K. Ahire Marg, Worli, Mumbai - 400 030, India | T : +91 22 6652 5000  
Units : Gummidipoondi | Renukoot | Patalganga

**From:** Pankaj Srivastava <pankajsr25@gmail.com>  
**Sent:** Saturday, July 31, 2021 10:07 PM  
**To:** Santrupt Misra  
**Cc:** Fedrigon, Tim; shishir misra; Ravindra Raghuvanshi; jay.kokate  
**Subject:** Thank you - Birla Carbon leadership  
**Attachments:** Resume PS.docx

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Respected Sir,

I still remember your BCR visit and positive interactions you had with me and with the BCR Team. I thank you for your visit and inspired leadership.

Today is my last day at Birla Carbon Renukoot as my contract is ending today. I have worked with ABG & BCR Unit for more than 32 years. I feel privileged and proud that I have worked with esteemed & world class organisation like ABG.

I was put on contract considering Unit HSE requirements post my severance last year. My severance was painful for me, however the team here took my maximum care by extending all the support they can.

I got support from unit team in various ways such as:

- Support on taking care of my old ailing father who is bed ridden for last few years.
- Extended stay in colony and arrange for critical items in the pandemic situation including grocery/medicines.
- Regular sanitization in and around the house to avoid any Covid risk.
- Counselling help
- Taking care of father's hospitalization wherever needed

I thank our Unit Head, Mr. Ravindra Raghuvanshi, Unit HR Team and Mr. Shishir Misra for supporting me emotionally & socially. Mr. Shishir Misra guided me and helped me in many ways which I will never forget. He also assured me that he will try his level best to create other options for me.

I am a chemical engineer with 33 years of experience in the carbon black industry. I have exposure in various departments such as Production, Technical Cell, Safety & Environment. My current age is 57 years and I am physically fit and can work for the next three years enthusiastically. My resume is attached herewith for your reference.

It is my humble request if you can engage me suitably within ABG.

Thank you again, respected Sir.

Regards,

Pankaj Srivastava

Email ID: [pankajsr25@gmail.com](mailto:pankajsr25@gmail.com)

Mobile: 9453986009

## RESUME

**Name :** Pankaj Srivastava  
**Address :** C-12, Birla Carbon Colony,  
 Murdha Industrial Area  
 Renukoot-231217, (Dist. Sonbhadra), U.P.  
**Date of Birth :** 25 June 1964  
**Sex :** Male  
**Cell :** +91-9453986009  
**E-mail :** pankajsv25@gmail.com

### Qualification :

**High School/Intermediate – First Division**

**B. Tech in Chemical Engineering from HBTI Kanpur – First Division**

**Post Diploma in Industrial Safety from RLI Kanpur – First Division**

### Brief Overview

- A professional, with very rare combination of, Excellent Hands-on experience in the field of Production/Quality Control, Project Management and SHE Management
- Working at Birla Carbon Renukoot, having ISO/TS16949, OHSAS-18001, ISO14001, Certifications and largest Carbon Black producer in the World, with 15 Carbon Plants in 12 Countries
- In nutshell, an ideal candidate groomed with all the required Global safety system based tools & practical shop floor experiences suited ideally for Plant Operation/SHE Management in Industry.
- Implemented following Global safety system standards successfully at Plant, resulted zero Fatal/major accident in last 5 Years in the Plant.
- Fall Protection, Confined space entry, Electrical safety, Control of Hazardous energy, Line breaking/Equipment opening, Hot work, Respiratory protection, Machine Guarding, Chemical Hazard communication, Mobile Equipment, Contractor management, Compressed gas safety etc.

### Experience :

- 15 Years in the field of Safety, Health & Environment, as AGM Safety/Head EHS, at Birla Carbon Renukoot, (from Yr. 2006 till July 2021)
  - 8 Years in the field of Project Management, As Senior Manager at Birla Carbon Renukoot (from Yr.1998 till 2006)
  - 10 Years in the field of Carbon black Production/Quality Control, as Asstt. Manager Production, Birla Carbon, Renukoot (from Yr.1988 till 1998)
- Total Experience : 33 Years

### Profile:

- A confident, self motivated & proactive chemical engineer with Post diploma in Industrial Safety with a proven track record in the field of Manufacturing and SHE Management .

- A strong Customer focused attitude with an open mind, always look for new challenges, and deliver results.
- Apart from a keen interest in all matters related to business, also possess strong analytical and Motivational skills.
- Actively involved in training program for improving safety awareness among Employees, and contract workmen.
- Interacting and coordinating with Birla Carbon Corporate situated at Marietta, USA for implementing Global Safety standards being followed across Globe (16 Birla Carbon Plants in 12 Countries) in the field of SHE

#### **Roles and Responsibility :**

- Planning, Organizing, coordinating and facilitating implementation of Safety Global standards/best practices, to provide safe and healthy work environment
- Formulate and implement various safety systems, identify Hazards at workplace, monitor Permit to Work system/PPE
- Safety training to employees, contract workmen, specific work place related training on specific Hazard control
- Accident/incidence investigation, root cause analysis, preparation of Action Plan, facilitation for implementation and report preparation for sending to concerned Govt, Authorities as per legal requirement
- Compliance of statutory requirements related with Safety, Health and Environment
- Compliance of ISOTS 16949, OHSAS-18001 & ISO 14001 system requirements
- Coordinate with Plant Engineering departments to ensure that the Employee and Contract Workmen follow SOP related to SHE
- To Plan, control and monitor, improvement projects for achieving high productivity, better product quality at optimum cost to achieve technical advancement
- Organize, monitor & review units overall performance with respect to Production, Quality, Cost, delivery, Safety and review performance of the same on daily basis in line with Business Goals, objectives as per annual target

#### **Key Skills :**

##### **Skills for Production/Quality Control :**

- Smooth operation of plant (Carbon Black Manufacturing) with Active interface & coordination with various maintenance departments for preventive and corrective maintenance.
- Production management with state of art technology (DCS YOKOGAWA CENTAM CS3000 & PLC) and troubleshooting, with Manpower Planning & handling
- Heading the shift team
- Production supervision and troubleshooting
- Meeting quality standards norms
- Process parameters & raw material consumption monitoring
- Preparation of Management Information Report

##### **Skills for Project related jobs :**

- Scheme preparation, P&I and layout drawing finalization, estimation of savings and Presentation for Block sanction required with ROI
- Planning for Project execution, Concept formulation, monitoring, evaluation & follow up for new projects and saving schemes.

- Analysis of data to arrive at corrective & preventive actions for technical problems referred to Technical Cell.
- Efficiency study of various plant machinery & equipment

#### Skills for SHE Management :

- Risk assessment and control
- Hazard identification and control
- Environment Aspect, impact and control
- System of adherence to SHE Policy and system for warning Letter/Punishment on Safety Violation
- Emergency Planning, preparedness and control
- Employee and Contract workmen motivation and awareness on SHE
- Safety behavioral improvement/Safety contact system
- Safety inspection, Safety Audit
- Visitor's Safety and access control
- Safe Vehicle movement inside Plant
- System of SOP, Permit to work, MSDS, LOTO, use of PPE etc

#### **Equipment / Processes Handled**

- All types of Blowers with positive as well as negative pressures
- Large horizontal tubular reactor for oil cracking and quenching
- Recuperators (800 °C) for heat transfer between gas and air
- Heat exchangers (250 °C) for oil and gas
- Waste heat recovery boilers of 20-kg/cm<sup>2</sup> pressure and 20 ton/hr steam generation
- Large Bag Filters, Cyclones and Pelletizers
- Oil handling and storage systems.
  - Operation of gas, liquid and solid handling system
  - Operation of following DCS systems:
    - 1) RS-3 from Fischer Rosemount, Germany
    - 2) Micro-XL and CS-3000 from Yokogawa, Japan

#### Achievements:

- Global Safety system implementation at Plant. No Major or Fatal accident in last 5 Years.
- Successful new Safety standard implementation in the Plant, in the field of Visitor Safety, Safe Vehicle movement inside Plant, Visitor access control, Offsite safety at Road, Machine 360 deg. Guarding, Flange Guarding, Hazard identification and control, Behavioral Safety, Permit to Work, Motivation and Safety awareness for Employee, Contract Worker and use of PPE
- 100% safety and Environment legal compliance at Enablon legal system compliance site
- Successful Planning, erection & commissioning of 45 kg high-pressure steam line, waste recovery Boiler & 2.0 Kilometer Oil transfer line.
- WHRB inlet cone modification for increase in steam generation, saving Rs 63 lacs/annum
- Installation of above Ground Fire Hydrant System of 2 Kilometer length at entire Plant for replacing existing underground Fire Hydrant Pipe line

- Successful installation and commissioning of zero water wastage treatment plant of capacity 400 KL/Day, for purification of highly contaminated water and reuse in process. Appreciated by both management and state pollution control board. Achieving zero discharge status for our unit.
- Successful installation and commissioning of Sewage treatment plant (STP) of capacity 250 KL/Day, for purification Sewage water and reuse in process.
- Construction of Hazardous Waste collection area with separate Bins, having impervious surface, shade as per Hazardous waste Rule

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# On the road to net zero

Birla Carbon Sustainability Report 2022



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Our approach

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## Our progress on sustainability in FY2022

At Birla Carbon, we have been sharing our expert knowledge of carbon black and its applications for over a century. As our company has evolved, we have also been pushing sustainability forward for the environment, for our customers and suppliers and for our people and communities. We are proud to share our tenth sustainability report this year.

### About our tenth report

Our tenth report includes performance highlights from April 2021 to March 2022 (FY2022) covering the full scope of our global operations. It contains a detailed analysis of performance against our Sustainable Operational Excellence (SOE) strategy and goals over the past year and highlights specific targets for the future.

Since FY2013, through our annual sustainability report, we have documented our journey to promote transparency while continuing to learn through ongoing monitoring and evaluation of our approach. We welcome suggestions and feedback from our stakeholders – including customers, employees and suppliers – as we work to fully embed sustainability-led thinking throughout our global business.

This report is approved by Birla Carbon's Senior Management Team and has been produced in accordance with the GRI 2016 Standards at Comprehensive level.

Read our [Global Reporting Initiative and United Nations Global Compact \(UNGC\) indices 2022 \(PDF\)](#), including references to the relevant Sustainable Development Goals (SDGs).

Visit [www.birlacarbon.com](http://www.birlacarbon.com) for additional information, including our detailed materials map.

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# Celebrating our tenth sustainability report



At Birla Carbon, we have been creating carbon black, which adds value to countless everyday products, for over a century. We share the strength of our product, organization and impact with our stakeholders as we drive circularity and sustainability progress. Our SOE strategy will continue to build on these foundations as we embed sustainable thinking at every level and advance responsible stewardship of the environment.

## What we have achieved so far...

### FY2013

- Adapted our sustainability and SOE strategy, and created our Sustainability Steering Committee
- Conducted our first materiality assessment



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- \$25.8 million invested in process improvements related to energy efficiency and greenhouse gas (GHG) emissions reductions in 2012 and 2013
- 5.2% reduction in direct CO<sub>2</sub> emission intensity from 2011 to 2012
- More than 7 million people in 3,000 Indian villages supported through our community investment programs

### FY2014

- First product Life Cycle Assessment conducted
- 100% of feedstock suppliers reviewed for their sustainability activity for the first time
- 16 of 17 manufacturing sites gained International Organization for Standardization 14001 certification
- First global customer satisfaction survey conducted

### FY2015

- Launched our Code of Ethics to suppliers
- 47% reduction in Total Recordable Incident Rate
- Conducted first water risk assessment for all sites
- \$250,000 committed to supporting math and science students in Marietta, Georgia

### FY2016

- \$33.4 million invested in process improvements related to energy efficiency and reducing GHG emissions
- Achieved our best safety record in 170 years
- Mapped our contribution to the UN SDGs



- Conducted our first megatrend analysis for future-proofing
- First CDP disclosures on climate change and water

### FY2017

- Our Product Stewardship Standard active across all our sites
- \$21 million invested in process improvements related to energy efficiency and reducing GHG emissions
- Achieved our first EcoVadis Gold Rating
- Began rolling out Commitment Based Safety across our facilities



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### FY2018



- Uncovered our company's Purpose: Share the Strength
- Fulfilled the WBSCSD Pledge for Access to Safe Water, Sanitation and Hygiene (WASH) at the workplace

- Our state-of-the-art greenfield facility began operating in Jining, China
- Set our target to repurpose 75% of waste by 2030
- Developing our third-party due diligence system to ensure we only work with suppliers, service providers, distributors and sales agents that have a good track record in terms of business ethics

### FY2019

- Three-quarters of our plants achieved energy positive status
- 100% of our suppliers screened using NAVEX Global's RiskRate due diligence system



- Introduced our Serious Injury and Fatality initiative to reduce accidents in six key operations areas
- Repurposed 43% of our waste



### FY2020

- Launched our first Hype Open Innovation campaign for employees to submit their ideas to develop our business and products
- Became the first carbon black multinational to receive International Automotive Task Force (IATF) certification across all its manufacturing plants



- Following the COVID-19 outbreak, we leveraged our global geographical footprint to ensure employees could access personal protective equipment



- Developed a Nanocellulose Dispersion Composite (NDC™) in partnership with GranBio, which enhances the sustainability of tires and rubber goods

### FY2021

- Became signatories of the UNGC, committing to share the positive impact of our business with society
- Pledged to lower our carbon emissions to net zero by 2050

- Launched Continua™ SCM, our first Sustainable Carbonaceous Material designed to re-enter the economy as new tires, plastics or rubber compounds



- Awarded Gold rating by EcoVadis for the fifth consecutive year

## FY2022 This year's highlights



Birla Carbon is refinancing existing debts through a **\$750 million** loan linked to our sustainability performance.

Committed to protecting our planet



The 4Rs: Research, Reduce, Replace and Repurpose, lead our strategy for lowering GHG emissions to **achieve net zero**.

Reducing our GHG emissions

CONTINUA

Developed our Continua™ SCM Carbon Footprint Statement, a publicly available document developed to promote transparency and help our customers determine the complete carbon footprint of their own products.

The circularity of carbon black



Upon completion of Cirtec's new facility, **73,000 tonnes** of Continua™ SCM will eliminate **228,000 tonnes** of direct and indirect CO<sub>2</sub> emissions annually when compared to the conventional carbon black process.

The circularity of carbon black



We launched our new **Hype Open Innovation** campaign for employees to submit their ideas to improve workplace safety and achieve our net zero target.

Employee engagement



We have been awarded a **Platinum Rating** by EcoVadis, following five consecutive years of Gold Ratings.

Global recognition



All our **12,000+** suppliers screened using NAVEX Global's RiskRate® due diligence system.

Supplier management



Seven Birla Carbon plants and two research and development laboratories received a **Gold Award** from the International Carbon Black Association (ICBA) for their safety performance.

Health and safety



Repurposed **67%** of waste, reducing the amount of waste sent to landfill.

Waste



Birla Carbon remains the only carbon black multinational to receive **IATF certification** across all its manufacturing sites.

Product quality

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## Progress towards our FY2030 goals

Goal	Status	FY22 Figure	Goal	Status	FY22 Figure
Improve our leadership position in terms of carbon black production capacity	On track	No. 2	Record zero environmental releases year on year	Behind schedule	12
Approximately double our annual capital spending against FY2012 baseline to reach \$100M	On track	\$81M	Achieve zero recordable injuries year on year (employee and contractor Total Recordable Incident Rate (TRIR))	Behind schedule	0.52
100% of active employees to receive Code of Ethics training	Behind schedule	52%	100% of Birla Carbon managers to have stated and measured goals set annually (percent of managers by year)	Target met and retained	100%
Increase our absolute energy-conversion efficiency to 80%	On track	71.6%	Remain above the chemical industry annual benchmark for employee engagement <sup>1</sup>	Target met and retained	86%
Reduce our direct CO <sub>2</sub> emissions intensity by more than 22% against the 2005 baseline	Behind schedule	95%	Remain above the Net Promoter Score threshold of 35 <sup>2</sup> (score by year)	Target met and retained	63
Reduce our water withdrawal intensity (m <sup>3</sup> per tonne of carbon black) by 50% versus FY2013 baseline at our high- and medium-risk sites <sup>3</sup>	Behind schedule	97%	100% of our facilities participate in community engagement	Target met and retained	100%
75% waste repurposed, including recycling, reuse and recovery, by 2030	On track	67%			

<sup>1</sup> Key performance indicator (KPI) includes Holcim, Cabot, Gurnisport, Alcoa, Weifang and Saha.

<sup>2</sup> This KPI was amended in FY2020 to exclude the results of the Team Vibe survey. It has also been modified to show results for calendar year (rather than financial year, in line with Vibe survey ratings).

<sup>3</sup> Net Promoter Scores range from -100 to +100.

# Environment

Striving to reduce our footprint

## In this section:

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## Committed to protecting our planet

As an international business, with customers and operations in countries all over the world, we recognize our responsibility to safeguard the environment. This means taking a long-term view and continually adapting and investing in our environmental stewardship to use resources more efficiently and minimize our adverse impacts.



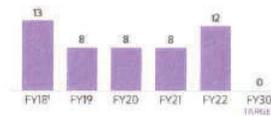
### WE SUPPORT THE FOLLOWING SDGS THROUGH OUR WORK



### Progress towards our target

**TARGET:**  
Record zero environmental releases year on year

**STATUS: BEHIND SCHEDULE**  
Birla Carbon strives for continual improvement for all Health, Safety and Environmental (HSE) efforts. In line with this, we have continued to focus on reducing and eliminating carbon black releases, which have been the cause of the majority of our environmental releases globally. For several of our facilities, which are located close to populated areas, Birla Carbon has proactively taken the approach to notify the authorities any time there is a visible release of carbon black, regardless of how small it may be. This increased reporting rigor has helped sites in these situations focus on operator training and operational controls that can help to eliminate the visible emissions. However, there are times when equipment malfunctions cannot be predicted, and thus result in a minor release.



### Sustainability Linked Loan

In 2021, we secured a \$750 million sustainability-linked loan (SLL) with a syndicate of more than 15 banks. Following the launch of our Continuous Sustainable Carbonaceous Material (SCM), the SLL challenges us to further explore sustainable and innovative solutions that will support our 2050 net zero carbon emissions goal and those of our customers.

Linking our borrowing programs to Sustainability and Innovation – two of Birla Carbon's key pillars responsible for our leadership in the industry – has brought immense synergies of shared aspirations with all our business partners and stakeholders to give us a real competitive advantage in the years to come.

Main key performance indicators (KPIs) for the facility include direct CO<sub>2</sub> intensity, bringing circular products to market and an external sustainability rating.

<sup>1</sup> In FY2022, we had two releases of carbon black/leakages exceeding regulatory reporting limits to soil and one to air. The remaining releases were reported on a voluntary basis to regulatory authorities.

## Our approach to considering the environment at every step of our process

Leading the way for the industry, Life Cycle Assessments (LCAs) cement our sustainability approach by evaluating all environmental impacts in a product life cycle, from raw material extraction through to end-of-life. We know our responsibility doesn't end at our facilities. To achieve a more circular economy, we collaborate with our entire value chain to understand and reduce our impacts.

### Aligning our projects with sustainability

We have an internal process for evaluating the sustainability impacts associated with projects throughout the planning, development and financing stages.

#### Stage-gate evaluation

At early phases of a project, the stage-gate process begins, with the Corporate Health, Safety and Environment (HSE) team providing an evaluation of the proposed project. The team reviews against regulatory requirements for safety, environmental and product stewardship issues and against existing Birla Carbon HSE standards.

#### Project development

Once a project receives stage-gate approval the Corporate HSE team continues to work with the appropriate subject matter expert depending on the topical area. During this phase, concerns around health, safety, environmental or product stewardship are evaluated with a focus on minimizing impact on the environment, the community, employees and customers.

### Appropriations request review

All HSE, product stewardship, sustainability and expansion projects are reviewed by the Global Director HSE. This review includes evaluation of the legal, regulatory and internal standard requirements.

### Understanding our impact from cradle to gate

We measure the impacts of every step of our production process. Our "cradle to gate" LCAs follow International Organization for Standardization (ISO) 14040 guidelines: from the moment the raw materials are extracted to the moment the product is delivered to our customers. Through regular LCAs we can better understand our environmental impact, including a range of emissions, land use, and mineral, fossil and renewable resource depletion. LCAs also highlight human risks such as toxicity. This process helps us to identify opportunities to improve our environmental performance and quantify our ongoing contribution to circularity.

[Learn about the variety of environmental impact categories we assessed through our LCA in our GRI Index.](#)

### Promising results – lower than average impact

We have compared our LCA results with those of the general carbon black industry, which are recorded byecoinvent. While their process is not fully representative of our manufacturing process, it does represent impacts for carbon black production globally. The results show that our production impacts are lower than industry averages.

## Our emission-, water- and waste-reduction methods

We are responsible for ensuring we monitor and minimize the emissions our processes produce. Our methods include: investing in pioneering air-emission-control technologies; increasing energy efficiency at our plants, sourcing local feedstock oil and recovering energy to be recycled back into our operations; or sold on to neighboring facilities. We monitor our emissions and continue to invest in new technologies to guarantee compliance with local regulations in the areas where we operate. We are committed to ensuring our production facilities do everything possible to prevent the release of carbon black dust into the atmosphere.

Although the quantity is relatively small, we generate waste at all stages of our industrial process, from manufacturing to packaging, and we are implementing strategies to reduce, reuse and recycle this waste. We work in areas where water scarcity is an issue, so we have developed a strategy that identifies where we can improve usage and where we can reduce the strain on potable water sources.

#### [Reducing our GHG emissions](#)

Our Environmental Policy, published in FY2018, outlines our commitment to continually improving the performance of our sites and products through compliance, transparent engagement and innovation.

#### [Our Environmental Policy](#)

## 64 Green Finance Framework

We have developed a Green Finance Framework to outline criteria and provide guidelines for Birla Carbon to enter, identify eligible assets for, manage the proceeds of and report on green finance transactions (GFTs).

GFTs include debt-financing instruments whose proceeds are applied towards eligible green projects or assets including green loans and bonds. Ultimately the Framework demonstrates best market practices and requirement management under GFTs in relation to international principles and our approach to sustainability.

We successfully concluded the first GFT under this framework, in the form of a green loan of \$50 million. This loan will refinance a part of the capital expenditure for installing state-of-the-art air-emissions-control technology at our plant in North Bend, Louisiana.

## Promoting transparency and collaboration

From the results of our most recent carbon black and Continua™ LCAs, we developed Carbon Footprint Statements. These statements are publicly available as a tool to help our customers determine the complete carbon footprint of their own products. They also ensure we are communicating transparently on our impacts.

- [Our Carbon Footprint Statement](#)
- [Continua™ Carbon Footprint Statement](#)

In FY2015, we began to disclose our performance through CDP, which we continue to do annually through its online platform. CDP is a nonprofit organization that works with companies and shareholders to disclose carbon emissions and the use of natural resources. In FY2022, we voluntarily responded to its Climate Change questionnaire, receiving a B rating, and replied to specific customer requests for information on our carbon footprint through our Supply Chain response.



### Seawater scrubbing innovation – North Bend, USA

In 2012, we began to engage with the US Environmental Protection Agency (EPA), Department of Justice and various state agencies to understand anticipated emissions-reduction targets. Internally, we started evaluating technologies that would reduce our nitrogen oxide (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>) emission levels.

As part of this evaluation process, we considered other environmental impacts beyond just air emissions and how we could reduce these as much as possible through our technology selection, design and construction. For instance, if we were to utilize the wet flue gas desulfurization process, the site would have to dispose of approximately 1.44 million lbs each week forever. We estimate that this extra generation of gypsum solid waste in the area would have reduced the life of the local landfill from over 30 years to less than 12 years.

We therefore explored a novel technology that was not being used anywhere in the US to remove SO<sub>x</sub> using seawater. We engaged consulting firms to research regulatory permits and water sources for seawater scrubbing at our North Bend site. Its proximity to the Gulf of Mexico and the Gulf Intracoastal Waterway and the absence of any threatened or endangered species in the area made it a viable water source.

Following the required public notice, we began our engineering and construction efforts. Where safe to do so, we continued to work on the development during the pandemic. The scrubbing facilities commenced operation in FY2022. Through use of the innovative seawater SO<sub>x</sub> scrubbing system at North Bend, they are avoiding millions of pounds of gypsum going to landfill per year and reducing SO<sub>2</sub> and NO<sub>x</sub> emissions by over 95% per year.



**Our investment in seawater scrubbing facilities is representative of our commitment to innovative technologies on our drive towards circularity as we strive to not only meet compliance requirements but exceed them."**

**DALE CLARK**  
Chief Manufacturing Officer,  
Americas, Europe & Africa Birla Carbon





Our presentation and Purpose video were well received by the audience, and we hope to continue to live our Purpose and Share the Strength for a better tomorrow.\*

SAMAH SHAWKY  
Plant Head  
Birla Carbon Egypt

**Birla Carbon Egypt – part of the global climate change conversation at COP26**

In November 2021, Birla Carbon Egypt contributed to the COP26 Climate Change Summit, hosted in Glasgow, United Kingdom. Via video screening, Samah Shawky, Plant Head at Birla Carbon Egypt, was part of a panel which showcased energy transition, water conservation and climate change mitigation success stories. She presented on the facility's progress towards carbon neutrality and discussed its energy-reduction goals.

For example, since 2015 the facility has achieved a 50% reduction in NO<sub>x</sub> emissions, and since 2016 a 50% reduction in SO<sub>x</sub> emissions. The plant has also decreased its CO<sub>2</sub> emissions by over 90%. Relating to water conservation, better recycling of waste water and increased retention of captive water resulted in a 60% reduction in the plant's municipal water withdrawal. This demonstrable progress solidified Birla Carbon Egypt as a valued part of the global climate change conversation.



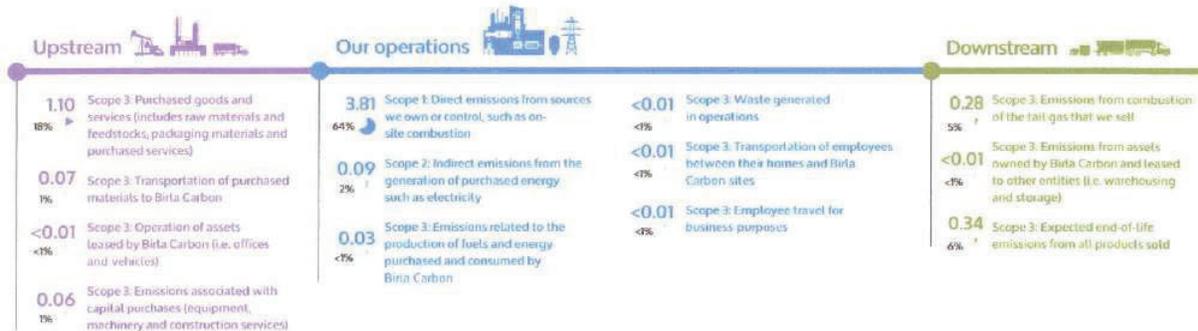
## Measuring our carbon footprint

Our approach to carbon stewardship extends throughout our entire value chain, from raw material extraction to manufacturing, product delivery and product end-of-life. Across each of the following points we look to monitor and reduce our carbon footprint.



**Our GHG emissions across our value chain**  
Million tonnes of carbon dioxide equivalent (CO<sub>2</sub>-eq), in FY2022

Progress towards our net zero commitment (see page 45) is measured against our 2022 greenhouse gas (GHG) emissions (developed in accordance with global standards).



Figures have been rounded.

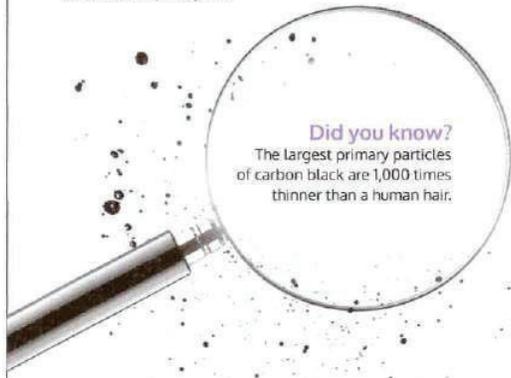
**Our emission scopes**

Our Scope 1 and 2 emissions have been prepared in accordance with the GHG Protocol Corporate Standard and third-party validated. In FY22, all Scope 3 category emissions were calculated following the [Corporate Value Chain Scope 3 Accounting and Reporting Standard](#) and utilizing the Quantis tool.

Based on the results of the Scope 3 accounting we determined that Purchased goods and services; Fuel- and energy-related activities; and End-of-life treatment of sold products were our highest-contributing Scope 3 categories and would be subject to a more detailed assessment. We created an environmental impact inventory for these categories using a combination of spend- and unit-based primary data.

We excluded Processing of sold products, Use of sold products, Downstream transportation and distribution, and Franchises emissions from our final inventory. Downstream transportation and distribution emissions are captured under other Scope 3 categories, and Birla Carbon does not own any franchises.

Emissions associated with the use of sold tailgas will be included, but emissions from the use of carbon black will not. This is allowed per the GHG protocol, and we are choosing to exclude processing of sold product and use of carbon black emissions due to the diversity of end products that carbon black goes into and the lack of information regarding their processing.



**Reducing our GHG emissions**

**We aim to reach net zero GHG emissions by 2050**

Following a natural progression in our circularity and LCA approach, we are pledging to lower our carbon emissions to net zero by 2050. This is a first for the industry, as we work to fulfil our vision of becoming the most respected, sustainable and dynamic global carbon black business.

**Developing emissions-reduction targets**

In FY2022, we developed a comprehensive Scope 3 GHG inventory and underwent third-party validation of our Scope 1 and 2 GHG emissions. It is our intention that these inventories represent the baseline for new near-term targets as we progress to net zero by 2050.

We are working with partners to model these Scope 1, 2 and 3 targets in alignment with Science Based Targets initiative (SBTi) guidelines. These goals will be informed by upcoming decarbonization target guidance for chemical companies published by the SBTi.

Our 4Rs roadmap (see graphic on next page) has been developed to support our emissions reduction. In an unusual challenge, Scope 1 is

our largest source of emissions; this is reflected in the non-linear decrease projected by our roadmap. Reducing these emissions will take time as we invest and innovate to overcome the challenges of our industry.

**Our target**

**TARGET:** Reduce our direct CO<sub>2</sub> emissions intensity by more than 22% against the 2005 baseline.

**STATUS: BEHIND SCHEDULE**  
This year we saw an increase in our absolute emissions due to increased production as we recovered from the pandemic. Our CO<sub>2</sub> emissions were also negatively impacted by limited access to higher-quality oils.



**Our direct emissions**

Direct CO<sub>2</sub> emissions from our carbon black manufacturing account for the majority of our emissions. That is because we primarily use fossil-fuel-based feedstocks that are transformed into carbon black. The more carbon we capture out of the feedstock, the more we can put into carbon black, and the less we emit as CO<sub>2</sub>. While it is impossible to convert all the carbon in our feedstock to carbon black, we focus on optimizing efficiency, grade mix and feedstock quality to improve our direct emissions.

- [Our Carbon Footprint Statement](#)
- [Continua™ Carbon Footprint Statement](#)

**Taking steps to reduce our CO<sub>2</sub> emissions at Patalganga**

Each of our sites is on its own path to sustainability. To help them along, we are establishing teams through our Sustainable Operational Excellence (SOE) program, focusing efforts on our sites which have the most room for improvement.

One site identified as such was our factory in Patalganga, India, where several opportunities were noted for improving CO<sub>2</sub> emissions performance. To address this, a cross-functional, global team consisting of employees from Engineering, IT, Plant Operations and the Regional Technology Manager group was created. Performing gap analysis, data collection, evaluation and testing, the team produced an action plan for the site with 16 areas for improvement and 55 actions.

The team remained on-site for the first two weeks, following which they performed weekly calls and week-long visits on a monthly basis. Through a range of actions such as faster data analytics and equipment upgrades, the site achieved a 6% reduction in CO<sub>2</sub> emission intensity in the past three years.

## How we will achieve net zero GHG emissions

Achieving net zero GHG emissions requires industry collaboration, so we are engaging experts and creating long-term partnerships to reach our goal. We understand that our customers value sustainability, therefore we are pledging to bring down our emissions alongside many of our suppliers.

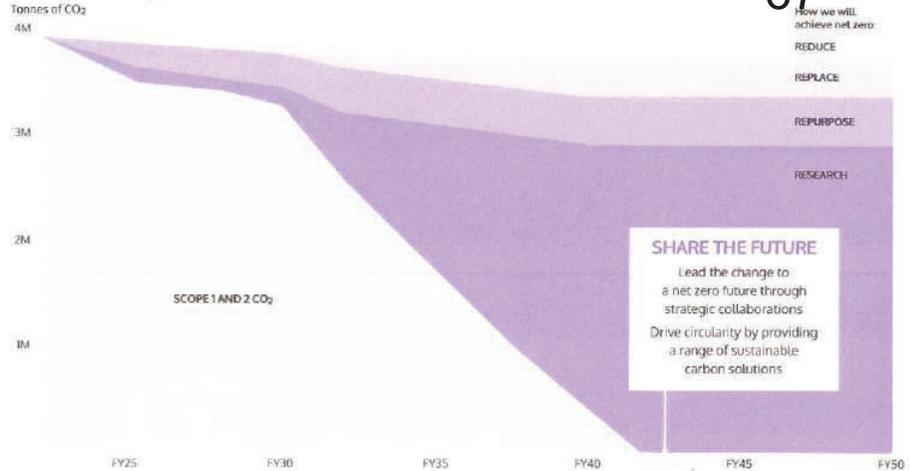
### Our net zero GHG emissions strategy

Our strategy for reducing our GHG emissions to achieve net zero remains anchored by the 4Rs: Research, Reduce, Replace and Repurpose. Targeting a reduction in emissions over the coming decades, we will be decarbonizing our business and decoupling our emissions from our production levels.

Most of our carbon footprint reductions will come from our investments in advanced technologies to upgrade our sites. These will target carbon capture and conversion, increasing use of bio-based feedstocks and advancing the production of more circular products. We'll maintain our focus on lowering the direct and indirect emissions linked to our carbon conversion from feedstock and energy-procurement processes.

A smaller portion will come from the indirect impacts of our entire supply chain (Scope 3), which will require working with external partners – for example our suppliers – to reduce their emissions.

### Our net zero roadmap



67 How we will achieve net zero



## Research – capturing and converting carbons

Carbon dioxide capture and conversion will be the primary lever we will utilize to achieve net zero. This is suited to our existing strengths in creating carbonaceous materials and the challenges that hard-to-abate industries like ours face. Challenges for decarbonizing our business include thermodynamic and chemical limits to efficiency improvements and the limited reduction potential that low-carbon energy inputs (i.e. renewables) have for our business. Scope 2 emissions from purchased energy only account for 2% of our overall emissions.

In FY2022, we started mapping and evaluating technologies and partners within the carbon capture and conversion space and assessed the technological and commercial viability of the partnerships for our business. We are in the process of establishing some formal partnerships both within Aditya Birla Group (ABG) and external to Birla Carbon to further our investigation and testing of some of the carbon capture and conversion technologies, while exploring new and emerging technologies in this area.



1 FY2021 results were impacted significantly by the COVID-19 pandemic.

## Reduce – traditional processes

We will continue to focus on optimizing processes for converting carbon to carbon black, and to prioritize energy efficiencies throughout our operations.

### Net energy positive

Efficient energy use and recovery is critical to our business. We have been tracking energy conversion efficiency since FY2015, with the aim of increasing absolute efficiency to 80% by FY2030. This means that for every 100 carbon units introduced to our facilities, a minimum of 80 would be converted either to carbon black or to a useful form of energy.

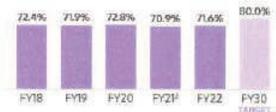
Since establishing our energy conversion KPI, we now recover more energy from our own facilities and consume less energy per tonne of carbon black produced. Much of this energy is used in our manufacturing process, while any surplus is sold to neighboring facilities and local grids.

Regional Energy Managers lead these efforts and share their knowledge across the rest of the business through our World-Class Manufacturing group. Our Energy and Carbon Policy sets out our commitments to outperform regulations by reducing our energy intensity and carbon footprint.

- Energy and Carbon Policy
- World-Class Manufacturing Group

### Progress towards our target

- TARGET:** Increase our absolute energy-conversion efficiency to 80% (total output energy (CO<sub>2</sub>-eq)/total input energy (CO<sub>2</sub>-eq))
- STATUS: ON TRACK** We improved our energy conversion efficiency in FY2022 as compared to FY2021 as a result of our focus on operational excellence and equipment upgrades. Much of the efficiency losses since FY2020 can be attributed to the addition of high-energy-consuming equipment for air emission controls.





### Harnessing natural resources at Birla Carbon Hungary

Manufacturing carbon black involves intensively heating hydrocarbon fuels and collecting unburned carbon. In the process high temperature smoke is emitted, which needs to be cooled down before it enters the bag collector.

Birla Carbon Hungary installed a heat-recovery system, which replaces the conventional method where the smoke would be cooled

down by spraying water in the smoke stream. Aiming to reduce environmental impact, in 2021 Birla Carbon Hungary installed a heat-recovery boiler in two of their production lines. This system produces 70,000 MT/year of extra steam, which can be used for electricity production, generating 9,500 MWh/year. The heat-recovery method also reduces water requirements by 26,000 m<sup>3</sup>/year.



### Designing for sustainability at Gummidiipoondi

At our Gummidiipoondi site in India, we have incorporated a range of energy-efficiency and water-conservation measures into the design of a new production line. To reduce energy consumption, we adopted a regenerative design approach, using low-grade extraction for feed water heating and reducing steam consumption in the deaerator. By upgrading the co-generation system, we produce an additional 1.7 MW of electricity from our process tail gas, displacing the electricity coming from the public grid.

As Gummidiipoondi is located in an area of water stress, we use an air-cooled condenser, reducing the amount of water needed to convert steam to condensate. The system was also designed to enable zero liquid discharge.

### Co-generation at Birla Carbon Italy

We commissioned a new electricity turbine at our Birla Carbon Italy (BCI) plant in Trecate at the end of FY2021, aimed at reducing fossil fuel consumption. The production unit is now able to use steam emitted from the boiler more efficiently; turbine efficiency has improved, increasing electricity production from 360 to 650 kWh/tonne of carbon black. This is a huge step forward, demonstrating how BCI is progressing with sustainability in mind.

Installation of new, more efficient technologies means that BCI is now net energy positive, producing additional electricity which it can export to the national grid. As well as offsetting Italy's national grid demand, BCI upgrades will have national benefits in the form of reduced overall CO<sub>2</sub> emissions.

### Replace – energy and feedstock

We will replace our current energy and feedstock with low-carbon solutions.

We will focus on adding more renewable energy solutions and shifting a portion of our production to alternative feedstocks derived from biomass. We are constantly seeking and evaluating alternative fuels for heating our reactors and to serve as feedstock for producing carbon black or other carbonaceous materials.

### Crowdsourcing net zero innovation ideas

We have been using our Hype platform to source innovative ideas for our net zero roadmap from our employees. The platform has proved a successful engagement tool, having received over 40 decarbonization ideas, many of which are now in the project development or implementation phase. These ideas ranged from creative ways to install renewable energy sources at our sites through building partnerships for CO<sub>2</sub> utilization to the role of diversity and inclusion in decarbonization efforts.

### Repurpose – materials

We will repurpose materials through a circular approach.

#### The circularity of Continua™ SCM

Our product-based research is focused on end-of-life innovation, striving to increase longevity and to understand how we can better support customers to repurpose carbon black.

According to ISO 14040 and ISO 14044, the LCA of our Continua™ SCM shows a significantly reduced carbon footprint when compared to our traditional furnace carbon black products. It will also contribute to a value chain with a net negative carbon footprint, as it captures 0.73 tonnes of CO<sub>2</sub> for every tonne produced.

Once Circtec's new plant is at full capacity, over 228,000 tonnes of direct and indirect CO<sub>2</sub> emissions will be eliminated annually when compared to our conventional carbon black process. Over the next five years, by putting millions of tires through the pyrolysis recycling process, we will introduce over 70,000 tonnes of SCMs to the market annually.

Through creating more circular products that align technological expertise and customized solutions, like Continua™ SCM, we enable our customers to develop the next generation of sustainable products.

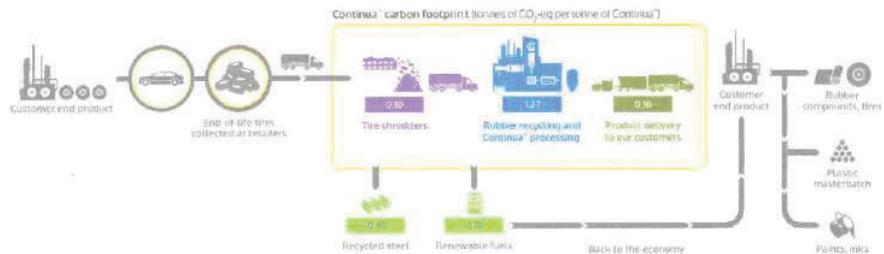
[The circularity of carbon black](#)

### Polymer-based packaging

This may appear to be counterintuitive, but a large proportion of our European customers can feed polymer-based packaging directly into their products, therefore reducing the overall amount of waste generated. Adopting this collaborative approach aims to change traditional approaches to the carbon black life cycle by improving product recyclability.

**Did you know?**  
We are reducing our environmental impact by capturing 0.73 tonnes of CO<sub>2</sub> for every tonne of Continua™ SCM produced.

### From creation to CONTINUA



# Water

Effective water stewardship is a key priority, especially in locations where this vital resource is scarce or where it is predicted to become scarce.

### Assessing our water vulnerability

We partnered with the [World Business Council for Sustainable Development](#) and the [World Resources Institute \(WRI\)](#) in 2016 to assess the water stress level at each of our manufacturing sites using the WRI's [Aqueduct tool](#). For our plants based in India, we complemented the assessment using the [India Water Tool](#). This approach provided us with an informative, high-level and generic assessment for all our sites.

Using the results of our assessments, we have determined which sites are at a medium or high risk for water availability to include in our Water Withdrawal KPI.<sup>3</sup>

[Governance](#)

### Our water risk management approach

Our Strategy considers short-, medium- and long-term scenarios to identify areas of improvement within our water cycle. We want to develop a more circular approach in this area and are constantly looking for ways we can reuse the water we withdraw.

Our [Water Stewardship Policy](#) sets out our commitments to protect and conserve water resources through management practices and governance systems.

Our water risk management approach is inspired by a six-step methodology detailed in our Water Stewardship Policy and advocated by the [European Water Stewardship Standard](#), the [Alliance for Water Stewardship Standard](#) and the [ABG Technical Standard \(Water Management\)](#).

We have recently integrated our water risk management approach into our wider [Enterprise Risk Management \(ERM\)](#) strategy, while high-risk sites are now incorporating Water Risk Mitigation Plans into their existing Business Continuity Plans. These mitigation plans identify both existing and additional strategies for managing critical water risks. New mitigation measures are actioned with deadlines set for completion, while existing mitigation strategies are reviewed at least annually through our ERM process.

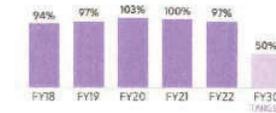


100% of our manufacturing locations use recycled process water and/or rainwater in their operations

### Progress towards our target

**TARGET:** Reduce our water withdrawal intensity (m<sup>3</sup>/carbon based) by 50% versus FY2013 baseline at our high- and medium-risk sites (water withdrawal intensity by year).

**STATUS: BEHIND SCHEDULE** While we reduced our water withdrawal intensity in FY2022, we recognize we are still behind schedule. Much of the air-pollution-control equipment installed in recent years at several of our sites has high water demands. We consider the balance of these various environmental impacts as we design solutions for our sites.

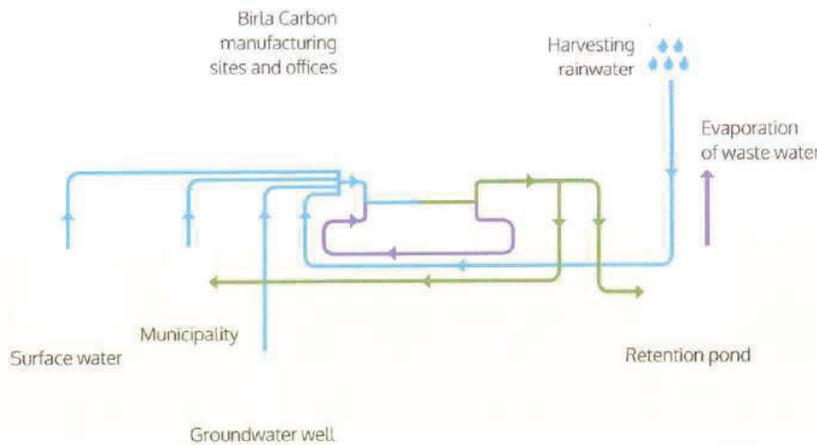


<sup>3</sup> Sites included in KPI: Hissak, Cubatão, Garividi, Poços de Caldas, Vitoria and Bafra.

### The water cycle at Birla Carbon sites

We try to limit our use of potable water, looking for ways to increase circularity by recycling and reusing it where feasible. Once water has been used in the manufacturing process, it is directed into retention ponds, from where it will be redirected back into other processes. Our water-conservation best practices are shared across all our locations as part of our SOE strategy.

Legend: All water (blue), Water withdrawn from source (light blue), Wastewater discharge (green), Recycled water (purple)



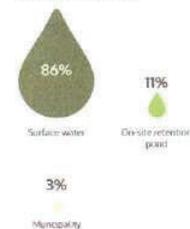
### Water withdrawal by source

FY2022: 39,252 megaliters



### Water discharge by destination

FY2022: 24,765 megaliters



<sup>4</sup> The increase in surface water withdrawal is due to the demand from the new Blue gas desulfurization system at North Beral. The entire volume of water passes through the treatment system and is returned to the Gulf for coastal Waterway with the exception of any minor evaporation losses.

## Waste

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In any industry, effective waste management and minimization should be a priority; carbon black is no exception. Although the quantity is relatively small, we generate waste at all stages of our industrial process, and we are implementing strategies to increase the circularity of our operations.

### Our approach to managing our waste

Our strategy aims to reduce the amount of waste we generate and ensure that what we do produce is reused or recycled – whether for the same purpose or for a secondary use. Our sites comply with all applicable HSE requirements, and we ensure waste materials are sent for disposal in the most sustainable manner.

We have fully implemented our Waste Management Standard (the Standard), which outlines internal requirements for the proper accounting, handling, transfer, storage, transportation and disposal of solid and hazardous wastes generated during construction of and operation at our facilities.

### Progress towards our target

- TARGET:**  
75% waste repurposed, including recycling, reuse and recovery, by 2030
- STATUS: ON TRACK**  
Recent stronger focus on waste management in our facilities globally, including composting of gypsum at our plant in Thailand and recycling of scrap material in all our plants, accounts for the marked increase in progress seen since FY20.



The Standard specifies roles and responsibilities for the management of solid and hazardous waste at our facilities to protect both people and the environment. It also encourages sites to consider new and updated waste-minimization options on an annual basis. Our waste management approach continues to evolve as we improve identification and accounting of our waste.

Achieving this waste-reduction target presents a significant challenge. We expect the repurposing of gypsum to make a significant contribution to our performance, but there are currently limited outlets available for doing so in some locations. We are exploring solutions to this challenge with our ABG peers.

### Reprocessing off-grade and unused carbon black

When we produce off-grade carbon black, rather than disposing of it, we segregate it and put it through the manufacturing process again until we have a product that meets our stringent quality standards. As carbon black has a long shelf life, customers are also able to return unused carbon black to us so it can be reprocessed. This way, not only are we reducing the waste that we generate but we are also taking steps to close the loop on our production.



**75%**  
waste repurposed, including recycling, reuse and recovery, by 2030

### Did you know?

Our new waste Standard was implemented in 2018 to drive best practice across our manufacturing sites.



### Our bulk transportation system in Gummidipoondi, India

In July 2021, we expanded upon our bulk transportation system in Gummidipoondi, India. Dependent on grade, we can save 16–17 plastic jumbo bags (containing 18–20MT of carbon black) per bulk truck dispatch. In FY2022, we exclusively dispatched 394 trucks using the bulkier to Apollo Tyres. This equates to a total plastic saving of 26.8 MT.

Apollo Tyres has agreed to work together on bulk transportation for the greenfield project at its Andhra Pradesh plant. We are also promoting this transportation system with other customers buying from Gummidipoondi to reduce plastic packaging. This is the first successful implementation of our bulk transportation system in India, and it's thanks to the sharing of the concept from our plant in Hungary.



### Reduce waste in our facilities

The canteen in our Trecate, Italy facility is taking a range of steps to drive progress towards sending zero waste to landfill. In a bid to reduce food waste, team members collect leftover bread from the facility and deliver it to a local kitchen, where it is used to make free meals for people in need.

The efforts of the Italian facility do not stop at reducing food waste. Converting from single-use plastics, all plates in the canteen are now made from cellulose pulp and are fully compostable at end of use. Single-use cups are also made from compostable materials. The polylactic acid polymer used is derived from plants such as corn, wheat or beets and can be broken down in industrial composting facilities once it has been used. To encourage employees to participate in these efforts and

to take responsibility for their own plastic consumption, more bins have been placed in office areas to separate plastic from other waste so it can be recycled.

In our Gummidipoondi, India plant, composting of canteen food waste has been standard practice since 2016. This compost is then used in the plant's organic vegetable garden. Each month approximately 25 kg of food waste is composted through this initiative. In Patalganga, India, employees are made aware of the amount of food they are disposing of with signs, updated on a daily basis with the quantity of waste thrown away that day. Any food waste is converted into composite fertilizer – currently around one tonne every year.

[Sustainable Development Goals](#)



## Air emissions

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Our manufacturing processes generate air emissions, and it is our responsibility to ensure these emissions are as low as they can be. Our commitment to SOE guides our approach to emissions reductions, encouraging us to continually search for the best possible processes and technologies.

We monitor our air emissions to ensure compliance with local regulations wherever we operate. We have policies and procedures in place that enable us to notify the local authorities and, when required, to act as soon as possible should specific limits be exceeded.

### Investing in technology

We continue to invest in and promote technological improvements, such as state-of-the-art filter materials, which ensure maximum containment and recovery of carbon black dust. In addition, we're evaluating the technologies and assessing how they can be implemented across our operations. A balanced approach is key: technologies for air emission control can have high water and energy requirements, so implementation must be considered in a holistic way and on a case-by-case basis.

In December 2017, we entered into a consent decree with the US EPA to further reduce emissions of NO<sub>x</sub>, SO<sub>2</sub> and particulate matter (PM) from our plants in Franklin, Louisiana and Hickok, Kansas.

At our Kansas facility, we commissioned a control system, which has been running since June 2021. The system uses staged combustion technology alongside strict feedstock controls to ensure the site continues to sustainably provide high-quality carbon black products. Initial testing of the installation indicates that we have effectively reduced our NO<sub>x</sub> emissions by our goal of 30% versus the baseline. A boiler was also installed to utilize the combustion heat from this new technology, providing the plant's steam requirements without the need for any supplemental fuel.

The Louisiana facility has state-of-the-art control systems installed and operational as of December 2021. This technology is the first of its kind, to the best of our knowledge, in the United States. It combines low-NO<sub>x</sub> combustion technology, selective catalytic reduction technology and a seawater scrubbing system that will minimize the environmental impact of the control systems.

The technology utilizes the brackish water in the Gulf Intracoastal Waterway to reduce sulfur components to salts that are naturally found in oceans. Through this technology, Birla Carbon has eliminated the transportation and disposal issues associated with traditional wet limestone scrubber systems, which generate a gypsum-like waste.

### De-NO<sub>x</sub> system at Birla Carbon Korea

Our sites continue to invest in new equipment to reduce their emissions. In FY2022, Birla Carbon Korea (BCK) installed a de-NO<sub>x</sub> system to reduce the NO<sub>x</sub> levels in the flue gas coming from their dryers. A selective catalytic reduction (SCR) system was selected for installation with the ability to reduce NO<sub>x</sub> levels to less than 90 parts per million. Following installation of the SCR, BCK demonstrated an 80% reduction in NO<sub>x</sub> levels.

The site also installed a telemonitoring system (TMS) to drive further reductions in NO<sub>x</sub> and SO<sub>2</sub>. The TMS helped BCK optimize processes that can influence NO<sub>x</sub> and SO<sub>2</sub> concentrations such as feedstock feed rate and spray; water levels; valve opening/closing; and system-purge techniques.



Deepak Singh

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**From:** Deepak Singh  
**Sent:** 29 September 2023 18:59  
**To:** Consultant Judicial-NGT(P.B.)  
**Cc:** pankajsv25@gmail.com; ms@uppcb.in; Nikitha Shenoy; Sushil Dogra  
**Subject:** RE: OA NO. 442 of 2023 | Pankaj Srivastava versus Birla Carbon India Pvt. Ltd.  
**Attachments:** Affidavit Reply affidavit on behalf of the Respondent birla.pdf

Dear Sir/Madam

Please find attached [Reply](#) Affidavit is being filed on behalf of Respondent (**BIRLA CARBON INDIA PRIVATE LIMITED**) in OA [442](#) of 2023.

Please acknowledge the receipt.

Regards  
Deepak Singh  
Court Clerk  
Advocate for Respondent  
9911180884