

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)	
)	R 23-18(A)
AMENDMENTS TO)	
35 Ill. Adm. Code Parts 212 and 215)	(Rulemaking – Air)
)	
)	

NOTICE OF FILING

To: Attached Service List

PLEASE TAKE NOTICE that on this day, the 20th day of May, 2024, I caused to be filed with the Clerk of the Illinois Pollution Control Board **RAIN CII CARBON LLC'S POST-HEARING COMMENT**, a copy of which is herewith served upon you.

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**RAIN CII CARBON LLC'S
POST-HEARING COMMENT**

Rain CII Carbon LLC (“Rain Carbon”), by and through its attorneys, ArentFox Schiff LLP, and pursuant to 35 Ill. Admin. Code 102.108 and the Hearing Officer’s April 22, 2024, Order, submits this Post-Hearing Comment on Rain Carbon’s proposed amendments to 35 Ill. Admin. Code Pts. 212 and 215. The proposed amendments include:

- (1) at Section 212.124(d), a proposed AEL for opacity that establishes up to a 3-hour averaging period to demonstrate compliance with the opacity standard during start-up of Kiln 1 or Kiln 2 under Section 212.123;
- (2) at Section 212.322(d), a proposed AEL for PM that establishes an annual limit of 300 hours per kiln that each kiln may, during SMB events, exceed the PM standard for process emission units under Section 212.322; and
- (3) at Section 215.302(b), a proposed AEL for VOM that establishes an averaging period of up to 12 hours during start-up of Kiln 1 or Kiln 2 to demonstrate compliance with the VOM standard under Section 215.301 (collectively, Rain Carbon’s “Revised Proposed AELs”).¹

For the reasons set forth below, in prior submissions of Rain Carbon, and in testimony by Mr. Ross Gares, Director of Calcining Operations for Rain Carbon, and Mr. Bryan Higgins of Trinity Consultants, Rain Carbon’s Revised Proposed AELs are supported by the evidence in the

¹ Capitalized terms have the same meaning as set forth in Rain Carbon’s Proposal of Regulations, the Supplemental Response to Illinois EPA Comments, and the Second Supplemental Response to Illinois EPA’s Comments, unless otherwise indicated herein.

Board's administrative record and are consistent with the requirements of the Illinois Environmental Protection Act (the "Act"). Therefore, Rain Carbon respectfully submits that the Board adopt the Revised Proposed AELs for second notice publication.

I. Comment

a. *The Revised Proposed AELs reflect Rain Carbon's extensive engagement with Illinois EPA during this rulemaking.*

On August 7, 2023, Rain Carbon proposed a rulemaking to amend the Illinois Administrative Code to provide AELs for opacity, PM, and VOM during limited periods of SMB at Rain Carbon's coke calcining facility in Robinson, Illinois. In support of its proposed rulemaking, Rain Carbon submitted the Pre-Filed Testimony of Mr. Ross Gares of Rain Carbon, Pre-Filed Testimony of Mr. Bryan Higgins of Trinity Consultants, and a TSD. The TSD provided ambient air quality modeling based upon worst-case emissions testing performed by Rain Carbon during a start-up event at Kiln 1 in 2023, which demonstrated that Rain Carbon's proposed AELs for PM and VOM will not result in interference with the applicable PM and ozone NAAQS as required by Section 110(l) of the CCA, 42 U.S.C. § 7410(l).

Before the First Public Hearing held on September 27, 2023—at which Mr. Gares and Mr. Higgins testified on behalf of Rain Carbon—the Company initiated cooperative discussions with Illinois EPA to ensure that Rain Carbon's proposed AELs would adequately demonstrate no interference with the attainment and maintenance of the applicable NAAQS. Over the course of the next several months, Rain Carbon and Illinois EPA engaged in a series of productive technical discussions regarding the proposed AELs for PM, VOM, and opacity and to address the Illinois EPA Comments (P.C. #5) regarding the TSD and modeling demonstration. As part of this work, Rain Carbon further evaluated historical operational data and the results of the July 2023 engineering study to develop Revised Proposed AELs, which address the comments raised

in the Illinois EPA Comments. Through its consultant, Trinity Consultants, Rain Carbon submitted a Supplemental TSD that contained revised modeling that both addressed Illinois EPA's concerns articulated in their Comments and refined the modeling based on additional evaluation of the July 2023 engineering study. The Supplemental TSD demonstrated that the Revised Proposed AELs—which proposed more stringent PM and VOM standards than originally proposed by Rain Carbon—would not interfere with the attainment and maintenance of the applicable NAAQS, in accordance with Section 110(l) of the CAA, 42 U.S.C. § 7410(l).

As represented in the Testimony of Rory Davis on behalf of Illinois EPA, the Agency did not identify any necessary revisions to that supplemental modeling or request that Rain Carbon conduct any additional modeling. Further, Illinois EPA determined that Rain Carbon's revised modeling was sufficient to demonstrate that the Revised Proposed AELs, even under worst-case conditions, would not interfere with the NAAQS. (*See* Illinois Environmental Protection Agency's Testimony of Rory Davis at p. 10 (Apr. 2, 2024) (the "Illinois EPA's Testimony") ("Rain Carbon's updated modeling uses the maximum emissions determined from the startup testing as the [SMB] worst-case emissions scenario, in conjunction with data estimation procedures *that the Agency agrees are appropriate.*" (emphasis added))).

Illinois EPA supports the Board's adoption of the Revised Proposed AELs. Ahead of the Third Public Hearing held on April 15, 2024, Mr. Rory Davis, manager of the Regulatory Development Unit in the Air Quality Planning Section of the Illinois EPA, provided the following pre-filed testimony: "Based on the additional technical support and justification for the amendments that Rain Carbon has provided, the Agency does not object to adoption of the rule proposal as set forth in Rain Carbon's March 15, 2024, filing with the Board." (Illinois EPA's Testimony at p. 14).

b. *The Board should adopt Rain Carbon's Revised Proposed AELs for second notice publication.*

The Board should adopt Rain Carbon's Revised Proposed AELs for opacity, PM, and VOM, each of which are summarized below. Illinois EPA supports the Revised Proposed AELs, and at the Third Public Hearing, did not raise any further comments or questions regarding the Revised Proposed AELs or the Supplemental TSD and supporting modeling.

i. *Revised Proposed AEL for Opacity (35 Ill. Adm. Code § 212.124)*

Rain Carbon proposes to amend Section 212.124(d) to allow for up to a 3-hour averaging period (using Test Method 9 of Appendix A to 40 C.F.R. Part 60) to demonstrate compliance with the opacity standard during start-up under Section 212.123. As previously explained in Rain Carbon's TSD, Supplemental TSD, and Supplemental Response, the 3-hour averaging period is necessary because opacity levels reached a maximum of 50% during the first hour of the engineering study performed at Rain Carbon's facility on July 20, 2023. (*See* Exhibit 1 to Pre-filed Testimony of Bryan Higgins, TSD at Section 2 (Sept. 5, 2023)). Opacity levels are highest shortly after green coke is first introduced into the kiln, when kiln temperature (and, thus, the inlet temperature to the pyroscrubber) is lowest.

Green coke is typically introduced into the kiln after the inlet temperature to the pyroscrubber reaches approximately 400 °F, which is attained using natural gas burners alone. (Rain Carbon, Statement of Reasons at p. 12). However, during the July 2023 engineering study, green coke was first introduced into the kiln when the inlet temperature to the kiln measured approximately 600 °F. (TSD at p. 2-1, Table 2-1, and Appendix F at PDF p. 214, Row "7/20/23 9:45"). This means that while "[t]he July 2023 engineering study was conducted during a representative start-up," (Trans. of Third Public Hearing, 28:10-14 (Apr. 21, 2024) (testimony of Bryan Higgins)), the July 2023 engineering study did not include opacity observations at the

lower temperatures (*i.e.*, 400-600 °F) typically experienced during start-up. Had those observations occurred, even higher opacity readings for a longer duration would have been expected. The proposed averaging period is thus necessary because future start-up conditions will include periods when green coke is introduced into the kiln at temperatures far lower than those observed during the July 2023 engineering study.

Illinois EPA did not have any further questions or concerns regarding the Revised Proposed AEL for opacity. In support of the Revised Proposed AEL, Mr. Rory Davis testified:

Rain Carbon has addressed the questions from the Agency's 10/23/23 Comments pertaining to the justification for the three-hour averaging period for compliance with the 35 IAC 212.123(a) opacity standard. . . . Based on the additional technical support and justification for the amendments that Rain Carbon has provided, the Agency does not object to adoption of the rule proposal as set forth in Rain Carbon's March 15, 2024, filing with the Board.

(Illinois EPA's Testimony at p. 14 (Apr. 2, 2024)).

Therefore, the Board should adopt the Revised Proposed AEL for opacity for second notice publication.

ii. ***Revised Proposed AEL for PM (35 Ill. Adm. Code § 212.322)***

Rain Carbon proposes to amend 35 Ill. Adm. Code § 212.322(d) to establish an annual limit on the number of hours (300 hours per kiln) that each kiln may during SMB events exceed the PM standard for process emission units under Section 212.322.

As detailed in the Statement of Reasons and Rain Carbon's Supplemental Response, historic and future potential operations at the Facility justify the need for the annual 300-hour per-kiln limit. Based upon historic operating data, Rain Carbon demonstrated that actual historic SMB hours at the Facility are lower than the total potential number of SMB hours that could have physically occurred in compliance with the Facility's CAAPP Permit during those years. (*See* Supplemental Response at p. 6; Statement of Reasons at pp. 14-15).

More specifically, the historic SMB hours presented in Table 1 of the Supplemental Response demonstrates that based on historic operations, the average number of hours that Kiln 1 and Kiln 2 may experience start-up or malfunction/breakdown events if operated year-round in the future is approximately 300 hours per kiln per year. Rain Carbon used this projection as the basis for its Revised Proposed AEL for PM. This approach “ensure[d] that the [Proposed AEL] accommodates potential future malfunction and breakdown events,” which may “last up to 24 hours.” (Trans. of Third Public Hearing at 31:19-23 (testimony of Bryan Higgins)).

At the Agency’s request, Rain Carbon also provided justification for including both periods of start-up and malfunction/breakdown in the 300 hours of proposed relief. As explained in the Supplemental Response, PM emissions are generally greater at lower pyroscrubber inlet temperatures, which is more often experienced during start-up than during malfunction/breakdown events. Emissions during start-up events are generally greater than emissions during malfunction/breakdown events in both extent and duration for three reasons: first, on average, start-up events occur for longer durations; second, temperature increases during start-up are often more gradual (to preserve refractory at lower temperatures), meaning that start-up may last for a longer duration at lower pyroscrubber inlet temperatures; and, third, start-ups generally begin at lower temperatures and progress over a broader temperature range before reaching 1800 °F. Therefore, the inclusion of both start-up and malfunction/breakdown events does not reduce the overall stringency of the Revised Proposed AEL for PM.

As detailed in the Supplemental TSD, Rain Carbon modeled the impact of 300 hours per kiln per year of start-up emissions to conservatively evaluate the impact of the proposed relief on the PM₁₀ 24-hour NAAQS and the PM_{2.5} 24-hour and Annual NAAQS. The modeling shows that

the Revised Proposed AEL for PM will not interfere with any NAAQS in accordance with CAA Section 110(l).

Illinois EPA did not have any further questions or concerns regarding the Revised Proposed AEL for PM and acknowledged the de minimis modeled impact of the Revised Proposed AEL under worst-case conditions. In support of the Revised Proposed AEL, Mr. Rory Davis testified:

[D]ue to the very low modeled impacts Rain Carbon's modeling analysis produced for each NAAQS, [Rain Carbon's PM modeling methodology] is sufficient to demonstrate that the impact from these SSM events would not be of concern. . . . Based on the additional technical support and justification for the amendments that Rain Carbon has provided, the Agency does not object to adoption of the rule proposal as set forth in Rain Carbon's March 15, 2024, filing with the Board.

(Illinois EPA's Testimony at pp. 13-14).

Therefore, the Board should adopt the Revised Proposed AEL for PM for second notice publication.

iii. ***Revised Proposed AEL for VOM (35 Ill. Adm. Code § 215.302)***

Rain Carbon proposes to amend Section 215.302(b) to establish an averaging period of up to 12 hours during start-up of Kiln 1 or Kiln 2 to demonstrate compliance with the VOM standard under Section 215.301.

As detailed in the Supplemental Response, Rain Carbon has demonstrated that based on the measured 'as carbon' VOM concentrations during the July 2023 engineering study and the extrapolation of those concentrations during lower start-up temperatures than experienced during the July 2023 engineering test (in order to account for the full range of temperatures that can be experienced during a representative startup event), a 12-hour VOM averaging period is both necessary and supported by available data. (*See* Supplemental Response at pp. 9-13;

Supplemental TSD at pp. 3-1 to 3-6). Rain Carbon provided historic operating data substantiating that up to 12 hours could be required to come into compliance with the 8 lb/hr VOM limit. (*See* Supplemental Response at p. 12, Table 3).

Rain Carbon modeled the impact of the Revised Proposed AEL utilizing the more conservative 'as carbon' VOM concentrations. As explained in the Supplemental TSD, the modeling continues to demonstrate that the Revised Proposed AEL for VOM will not interfere with the Ozone NAAQS in accordance with CAA Section 110(l). (*See* Supplemental TSD at pp. 3-5 to 3-6).

Illinois EPA did not have any further questions or concerns regarding the Revised Proposed AEL for VOM and acknowledged the de minimis modeled impact of the Revised Proposed AEL under worst-case conditions. In support of the Revised Proposed AEL, Mr. Rory Davis testified:

Because VOM emission rates would be expected to be maximized at the minimum temperature in the kilns, Rain appropriately extrapolated the measured VOM emission rate at 694 F to 400 F, to obtain a maximum rate of 4.82 lbs/hr. . . . Rain Carbon effectively demonstrates that the contribution from the Kilns' startup VOM emissions to the potential for ozone NAAQS exceedance is very small, even given very conservative assumptions. . . . Based on the additional technical support and justification for the amendments that Rain Carbon has provided, the Agency does not object to adoption of the rule proposal as set forth in Rain Carbon's March 15, 2024, filing with the Board.

(Illinois EPA's Testimony at pp. 11-12, 14).

The Board should thus adopt the Revised Proposed AEL for VOM for second notice publication.

iv. ***The Revised Proposed AELs are consistent with the U.S. EPA guidance in the 2015 Final SIP Call.***

The Board also should adopt the Revised Proposed AELs for second notice publication because they are consistent with U.S. EPA's recommendations for AELs articulated in the 2015

Final SIP Call. (See 2015 Final SIP Call, 80 Fed. Reg. 33839, 33980 (June 12, 2015)). The Revised Proposed AELs are limited to a narrowly defined source category: namely, two emission units, Kiln 1 and Kiln 2. There is also no alternative control strategy, including additional pollution control equipment, that eliminates the need for the Revised Proposed AELs during SMB. (See, e.g., Trans. of First Hearing at 24:7-10 (Sept. 27, 2023) (“[T]here are no technical or economically feasible options to control emissions while the inlet pyroscrubber temperature is below 1800 [°F]” (testimony of Mr. Ross Gares))). In addition, the Revised Proposed AELs provide for alternative standards that are limited in scope and duration in that the Revised Proposed AEL for opacity limits the averaging period to demonstrate compliance with the opacity standard during start-up of Kiln 1 or Kiln 2, the Revised Proposed AEL for PM limits the annual number of hours that Kiln 1 or Kiln 2 may operate during SMB events in excess of the PM standard, and the Revised Proposed AEL for VOM limits the averaging period to demonstrate compliance with the VOM standard during start-up of Kiln 1 or Kiln 2. Lastly, each Revised Proposed AEL requires appropriate recordkeeping and reporting to document Rain Carbon’s use of the AEL. Thus, the Board should adopt the Revised Proposed AELs for second notice publication.

c. The Board should proceed with this rulemaking, notwithstanding the D.C. Circuit’s ruling on U.S. EPA’s 2015 SSM SIP Call.

In the Hearing Officer’s April 8, 2024 Order, the Board directed IEPA and the rulemaking participants to comment on any implications of the D.C. Circuit’s ruling on the U.S. EPA’s 2015 SSM SIP Call “on the Board rules adopted in the main docket as well as the proposed rules in Subdocket A.” Rain Carbon submits that the D.C. Circuit’s decision in the

SSM Litigation² does not directly apply to the Illinois SIP because the Illinois SIP call was not before the Court, and the Board should thus proceed to adopt Rain Carbon's Revised Proposed AELs.

In the SSM Litigation, the Court considered four types of SSM provisions were subject to the 2015 SSM SIP Call: automatic exemptions, "director's discretion" provisions, an "overbroad enforcement discretion" provision, and affirmative defense provisions. The Court divided affirmative defense provisions into two categories: (a) those that provide a complete defense to an action for non-compliance, and (b) those that preclude certain remedies after a source has violated an emission rule.

The Court granted petitioners' challenges and vacated U.S. EPA's call of SIPs with SSM provisions that constituted automatic exemptions, "director's discretion" provisions, and complete affirmative defenses (*i.e.*, those that provide a complete affirmative defense to an action for non-compliance, as opposed to those that preclude only certain remedies). The Court explained that such affirmative defenses "create an exemption from the normal emission rule."

Because the Illinois SIP call was not before the Court, it is not directly impacted by the D.C. Circuit's decision in the SSM Litigation.³ In light of the fact that no immediate action has been taken by U.S. EPA on the Illinois EPA's SIP, and that Illinois EPA stated during the Third Public Hearing that "[t]he Agency does not intend to withdraw its SIP submittal or to propose

² See *Env't Comm. of the Fla. Elec. Power Coordinating Grp., Inc. v. EPA*, No. 15-1239 (D.C. Cir. Mar. 1, 2024).

³ Had the Illinois SIP call been before the Court, Rain Carbon believes the SIP call would have been invalidated because, among other reasons, the Illinois SMB rules are analogous to the provisions of the Alabama and Arkansas SIPs, which were found by the Court to be facially sufficient under the Clean Air Act. Other states in which Rain Carbon has facilities—Louisiana and Mississippi—were among those impacted by the D.C. Circuit's ruling.

regulations to the Board seeking repromulgation of the previous [SMB] provisions” (Trans. of Third Hearing at 18:21-24 (Mr. Rory Davis)), the Board should adopt for second notice publication Rain Carbon’s Revised Proposed AELs.

II. Conclusion

For the reasons stated in this Comment, in prior submissions of Rain Carbon, and in testimony by Mr. Ross Gares, Director of Calcining Operations for Rain Carbon, and Mr. Bryan Higgins of Trinity Consultants, Rain Carbon respectfully submits that the Board adopt the Revised Proposed AELs for second notice publication.

Respectfully submitted,
Rain CII Carbon LLC

By: /s/ David M. Loring
David M. Loring

Dated: May 20, 2024

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CERTIFICATE OF SERVICE

I, the undersigned, certify that on this 20th day of May, 2024, I have electronically served a true and correct copy of **Rain CII Carbon LLC's Post-Hearing Comment**, by electronically filing with the Clerk of the Illinois Pollution Control Board and by e-mail upon the persons identified on the attached Service List.

My e-mail address is Alex.Garel-Frantzen@afslaw.com.

The number of pages in the e-mail transmission is 15.

The e-mail transmission took place before 5:00 p.m.

/s/ Alexander J. Garel-Frantzen

Alexander J. Garel-Frantzen

Dated: May 20, 2024

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