

NORTH CAROLINA DIVISION OF
AIR QUALITY
Application Review

Issue Date: TBD

Region: Asheville Regional Office
County: Caldwell
NC Facility ID: 1400204
Inspector's Name: Amro Ali
Date of Last Inspection: 08/13/2024
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Tapaha Dynamics, LLC

Facility Address:

Tapaha Dynamics, LLC
708 Lynhaven Drive
Lenoir, NC 28645

SIC: 7374 / Data Processing Services

NAICS: 518210 / Data Processing, Hosting, and Related Services

Facility Classification: Before: Title V **After:** Title V

Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: 02Q .0317

NSPS: n/a

NESHAP: n/a

PSD: n/a

PSD Avoidance: n/a

NC Toxics: n/a

112(r): n/a

Other: n/a

Contact Data

Application Data

Facility Contact

Kerry Barnett
Facilities Manager
(770) 876-4823
708 Lynhaven Drive
Lenoir, NC 28645

Authorized Contact

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Technical Contact

Josh Turner
Data Center EHS
Program Manager
(828) 712-2224
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Lenoir, NC 28645

Application Number: 1400204.25A

Date Received: 05/27/2025

Application Type: Modification

Application Schedule: TV-Reopen for Cause

Existing Permit Data

Existing Permit Number: 09733T10

Existing Permit Issue Date: 05/12/2025

Existing Permit Expiration Date: 06/30/2026

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2023	0.0500	20.51	0.7500	3.49	0.1600	0.0045	0.0030 [Xylene, m-]
2022	0.0600	9.91	0.6200	1.71	0.1600	0.0045	0.0030 [Xylene, m-]
2021	0.0500	3.49	0.1800	0.9400	0.1600	0.0045	0.0030 [Xylene, m-]
2020	0.0200	3.06	0.1600	0.8200	0.1600	0.0045	0.0030 [Xylene, m-]
2019	0.1500	7.21	0.4500	1.09	0.2600	0.0108	0.0030 [Xylene, m-]

Review Engineer: Russell Braswell

Review Engineer's Signature:

Date:

Comments / Recommendations:

Issue 09733T11

Permit Issue Date: TBD

Permit Expiration Date: June 30, 2026 (no change)

1. Purpose of Application

Tapaha Dynamics, LLC (Tapaha; the facility) operates a data center in Caldwell County under Title V permit 09733T10 (the existing permit). The existing permit was issued in response Tapaha's 1400204.24A application for minor modification.

While DAQ was reviewing the 1400204.24A application and the existing permit, DAQ determined that the 09733T09 permit included a material mistake. The facility has potential emissions of carbon monoxide (CO) greater than the threshold in 40 CFR 51.166(b)(1)(i)(B) (*i.e.*, 250 tons per year, tpy). Facilities with emissions of a regulated NSR pollutant (CO is such a pollutant) greater than that threshold are major stationary sources under Prevention of Significant Deterioration (PSD).

Tapaha had previously accepted an emission limit to avoid being designated as a major stationary source under PSD (a so-called PSD avoidance limit). That limit was only for nitrogen oxides (NO_x); DAQ erred by not including an appropriate limit for CO.

Therefore, DAQ determined that the PSD avoidance limit in the existing permit was insufficient. DAQ determined that the only method of correcting the existing permit was to reopen the permit "for cause" as allowed by 15A NCAC 02D .0517(d). DAQ will use this method to add the required PSD avoidance limit for CO to the Title V permit. DAQ will also include all monitoring, recordkeeping, and reporting required for Tapaha to demonstrate compliance with this new PSD avoidance limit for CO.

Note that this change does not represent a physical change or change in the method of operation at this facility. Adding the CO limit to the Title V permit is only to ensure that the Title V permit includes all limits, monitoring, recordkeeping, and reporting needed for Tapaha to demonstrate compliance with all applicable standards.

2. Application Chronology

Date	Event
April 25, 2025	While processing Tapaha's application for Title V minor modification (1400204.24A, the previous application), DAQ discussed via email the need for a PSD avoidance limit for CO and associated monitoring, recordkeeping, and reporting.
April 29, 2025	Tapaha provided emission factors for CO for each of the permitted emergency generators.
May 2, 2025	DAQ informed Tapaha that the PSD avoidance limit for CO would be added to the permit through a separate "reopen for cause" permit action.
May 12, 2025	DAQ issued Title V permit 09733T10 in response to application 1400204.24A.
May 21, 2025	DAQ sent a letter via email informing Tapaha that DAQ intended to reopen the Title V permit for cause following the 60-day waiting period required by 15A NCAC 02Q .0517(d).
May 27, 2025	Tapaha sent a letter to DAQ via email that waived the 60-day waiting period. Because Tapaha waived the 60-day waiting period, DAQ created application 1400204.25A on this day. This application was deemed complete on this day.
May 29, 2025	An initial draft of the reopened permit and this application review were sent to DAQ Permits staff.
June 17, 2025	Comments received on the May 29 draft.
June 19, 2025	A revised draft of the reopened permit and this application review were sent to DAQ ARO staff, DAQ SSCB staff, and Tapaha staff.
TBD	Public notice / EPA review
TBD	Public notice ends
TBD	EPA review ends
TBD	Permit issued.

3. Application Discussion

3.1 15A NCAC 02Q .0317 “Avoidance Conditions” and PSD avoidance

Applicability: This rule allows a Permittee to accept enforceable limits in order to avoid applicability of specific rules (see 02Q .0317(a)). Tapaha has accepted a facility-wide NOx emission limit in order to avoid being designated as a major stationary source, and therefore avoid applicability of 15A NCAC 02D .0530 “Prevention of Significant Deterioration” (PSD).

Major stationary source: Under PSD, a major stationary source is a facility with actual or potential emissions greater than the thresholds in 40 CFR 51.166(b)(1)(i). For facilities not specifically included in the list of categories in 40 CFR 51.166(b)(1)(i)(a), the threshold is 250 tpy of any regulated NSR pollutant. Data centers are not included in that list of categories, so Tapaha is subject to the 250 tpy threshold.

Emission limits: This facility has potential emissions of NOx and CO greater than the 250 tpy threshold, so the permit must include emission limits for NOx and CO such that the 250 tpy threshold is not exceeded.¹

As discussed in Section 1, the existing permit only includes an emission limit for NOx. DAQ must now add an emission limit for CO as well.

DAQ has already determined that Tapaha has not previously exceeded this CO limit.² The new Title V permit will include specific requirements for Tapaha to demonstrate compliance in the future.

Compliance for CO PSD avoidance limit: In order to demonstrate compliance with the PSD avoidance limit for CO, DAQ will include monitoring, recordkeeping, and reporting for CO emissions. Tapaha will be required to calculate CO emissions on a monthly basis using the following equation:

$$CO_{month} = \left(\sum (EF_{i,L} \times C_{i,L} \times O_{i,L}) \times \left(\frac{1 \text{ ton}}{907,185 \text{ g}} \right) \right) + (Misc.)$$

Where:

- | | | |
|---------------------|---|--|
| CO _{month} | = | The facility-wide CO emissions from the generators. (tons per month) |
| EF _{i,L} | = | For each generator listed in Section 1, above, and loading listed in Tables 2.1 A.5-3 and 4, below, as applicable, the approved CO emission factor. See Tables 2.1 A.5-3 and 4 below. (grams per horsepower-hour) |
| C _{i,L} | = | For each generator and loading, the rated capacity of that generator for that loading. For example, if the maximum capacity of the generator is 2,000 horsepower, C _{i,L} for the 50-75% category would be 2,000 × 75% = 1,500 horsepower. (horsepower) |
| O _{i,L} | = | For each generator and loading, the monthly operations of that generator at that loading. See Tables 2.1 A.5-3 and 4 below. (hours per month) |
| Misc. | = | The monthly emissions of CO from other sources at the facility. The Permittee shall calculate CO emissions from miscellaneous sources using the applicable emission factor published by US EPA in AP-42, unless another emission factor is approved by DAQ. (tons per month) |

¹ See Table 4 to DAQ’s review of application 1400204.24A and associated Title V permit 09733T10 (issued May 12, 2025).

² Ibid, page 15 and 16.

Table 2.1 A.5-3

Generator	CO EF, by loading [EF _{i,L}] (g/hp-hr)			
	0-25%	25-50%	50-75%	75-100%
EG-1 through EG-37	0.65	0.40	0.19	0.21
EG-38 through EG-50	0.57	0.36	0.13	0.18
EG-51 through EG-54	0.66	0.36	0.48	0.66
EG-55 and EG-56	0.57	0.36	0.13	0.18
EG-57 and EG-58	0.96	0.55	0.40	0.48
EG-59	0.57	0.36	0.13	0.16

Table 2.1 A.5-4

Generator	CO EF, by loading [EF _{i,L}] (g/hp-hr)				
	0-10%	10-25%	25-50%	50-75%	75-100%
EG-60 through EG-75	4.26	1.47	0.58	0.48	0.76
EG-76 through EG-107	4.05	2.66	0.82	1.23	0.74
EG-108 through EG-120	2.42	1.17	0.33	0.21	0.30
EG-121 through EG-156	3.43	1.68	0.57	0.56	1.16
EG-157 through EG-163	4.64	2.03	1.45	1.36	0.94

The approved CO emission factors referenced in the equation are based on manufacturer specifications and were provided by Tapaha.³ The factors will be included in the permit.

Note that this method of calculating CO emissions is essentially the same method for calculating NOx emissions that is already present in the Title V permit.

Monitoring, recordkeeping, and reporting: Tapaha will be required to perform CO calculations on a monthly basis. Tapaha will keep records of CO calculations and submit a semiannual summary report.

3.2 Changes to the existing permit

Page No.	Section	Description of Changes
Throughout	Throughout	<ul style="list-style-type: none"> Updated dates and permit numbers.
8	2.1 A.5	<ul style="list-style-type: none"> Added avoidance limit for CO. Added CO calculation formula. Added CO emission factors supplied by the Permittee. Added CO reporting requirements.

* This list is not intended to be a detailed record of every change made to the permit but a summary of those changes.

³ Email from Jonas Gilbert (EHS Engineer / Project Manager for AECOM, a firm representing Tapaha) to Russell Braswell (Engineer, NC DAQ), received April 29, 2025.

4. Compliance Status and Other Regulatory Concerns

Compliance status: Tapaha's compliance status was most recently reviewed when DAQ issued Title V permit 09733T10 and the associated review of application 1400204.24A (issued May 12, 2025). Tapaha appeared to be in compliance with the Title V permit at that time. Furthermore, as discussed in Section 3.1, Tapaha appears to already be in compliance with the new CO emission limit.

Application fee: In general, no application fee is required for reopen-for-cause permit applications.

PE Seal: Some applications must be sealed by a Professional Engineer. In this case, there is no need for a PE seal because this reopen-for-cause application does not meet the criteria for a PE seal in 15A NCAC 02Q .0112.

Zoning Consistency Determination: Applications that meet the criteria in 15A NCAC 02Q .0507(d) require a zoning consistency determination. In this case, there is no need for a zoning consistency determination because this reopen-for-cause application does not meet those criteria.

5. Draft Permit Review Summary, Public Notice, and EPA Review

Initial draft: An initial draft of the permit and this application review were sent to DAQ Permits staff on May 29, 2025. Comments were received June 17, 2025. The comments requested minor corrections to the draft permit and application review.

Revised draft: A revised draft of the permit and this application review were sent to DAQ ARO staff, DAQ SSCB staff, and Tapaha staff on June 19, 2025. No responses to this draft were received as of July 7, 2025.

Public Notice and EPA Review: A notice of the draft Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0518(b), the EPA will have a 45-day review period. Based on an agreement between DAQ and EPA, this period will generally coincide with the 30-day public notice period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit shall be provided to EPA. Also, pursuant to 02Q .0522, a notice of the draft Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 02Q .0521 above. DAQ voluntarily provides notice to each bordering State (Virginia, Tennessee, Georgia, and South Carolina).

- The Public Notice and EPA Review periods began on XXXXXXXX.
- The Public Notice period ended on XXXXX.
- The EPA Review period ended on XXXXXX

6. Recommendations

This permit application has been reviewed by NC DAQ to determine compliance with all procedures and requirements. NC DAQ has determined that this facility appears to be complying with all applicable requirements.

DAQ recommends issuance of Permit No. 09733T11. ARO, SSCB, and Tapaha have received a copy of this permit and submitted comments that were incorporated as described in Section 5.