NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: TBD, 2023

Region: Mooresville Regional Office
County: Stanly
NC Facility ID: 8400013
Inspector's Name: Denise Hayes
Date of Last Inspection: 09/28/2022
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Carolina Stalite Company

Facility Address:
Carolina Stalite Company
12423 Old Aquadale Road
Norwood, NC 28128

SIC: 3295 / Minerals, Ground Or Treated
NAICS: 212399 / All Other Nonmetallic Mineral Mining

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

Permit Applicability (this application only)

SIP: 15A NCAC 02D .0516
NSPS: NA
NESHAP: NA
PSD: NA
PSD Avoidance: NA
NC Toxics: NA
112(r): NA
Other: NA

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Joe Konzelmann Environmental Compliance Supervisor (704) 279-2166 PO Box 1037 Salisbury, NC 28145+1037	Jody Wall General Manager (704) 636-5231 PO Box 1037 Salisbury, NC 28145+1037	Tim Agner Manager of Engineering Services (704) 279-2166 PO Box 1037 Salisbury, NC 28145+1037

Application Data

Application Number: 8400013.22A
Date Received: 10/14/2022
Application Type: Modification
Application Schedule: TV-Significant

Existing Permit Data
Existing Permit Number: 03225/T43
Existing Permit Issue Date: 08/23/2022
Existing Permit Expiration Date: 07/31/2027

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2021	196.43	90.09	0.0100	0.1900	8.62	0.1881	0.1300 [Fluorides (sum of all fluoride]
2020	214.01	92.79	0.0100	0.2000	9.11	0.1988	0.1375 [Fluorides (sum of all fluoride]
2019	213.70	92.71	0.0100	0.2000	9.19	0.2315	0.1605 [Fluorides (sum of all fluoride]
2018	247.57	118.42	0.0100	0.2000	11.46	0.2870	0.1995 [Fluorides (sum of all fluoride]
2017	29.25	16.31	---	0.0400	3.85	0.3772	0.2805 [Fluorides (sum of all fluoride]

Review Engineer: Richard Simpson

Review Engineer's Signature: **Date:**

Comments / Recommendations:
Issue 03225/T44
Permit Issue Date: TBD, 2023
Permit Expiration Date: July 31, 2027

I. Introduction:

Carolina Stalite Company (Carolina Stalite) currently holds Title V Permit No. 03225T43 with an expiration date of July 31, 2027 for a lightweight aggregate operation in Norwood, Stanly County, North Carolina.

II. Description of Facility:

Carolina Stalite Company Aquadale Properties, LLC (Carolina Stalite) currently operates a lightweight aggregate plant at Norwood, NC. Carolina Stalite crushes shale to make lightweight aggregate and manufactured soil for sale. The facility processes the aggregate in kilns that are permitted to burn coal, and fuel oil to make lightweight aggregate for the construction industry. The aggregate raw material, in the form of rock, is received from an adjacent quarry, heat expanded in the kilns, and then crushed and screened to size.

Air emission activities at the facility include direct fired rotary kilns for heating and expanding Argillite Slate to produce light weight aggregate (LWA). The expanded LWA material is crushed, screened, and sized for shipping. General operations include conveying, handling, and storage activities. Carolina Stalite is currently permitted for three LWA kilns (ID Nos. ES-7, ES-8, and ES-9). Two of these, kiln Nos. 7 and 8, have been installed and are operational. However, kiln No. 7 was shut down on October 26, 2010 due to economic reasons and has not been operated since that time. The third kiln, No. 9, has not yet been installed. Once kiln No. 9 commences operation, kiln No. 7 is no longer allowed to operate. All three kilns are permitted to burn coal, No 2-fuel oil, and natural gas. Wheel loaders are used to load material into trucks and rail cars for shipment to Carolina Stalite customers.

Manufactured Soil:
Carolina Stalite blends lightweight aggregate with other quality natural products to create custom soils used in various horticultural and other non-structural applications. These materials are mixed on site with a loader, and shipped in bulk. Materials used in Carolina Stalite Manufactured Soils are LWA, compost, local soils, sand, and brick chips.

When in operation, the facility normally operates seven days per week.

Carolina Stalite is a major source under Prevention of Significant Deterioration (PSD) rules and has undergone Best Available Control Technology (BACT) analyses as discussed below. Carolina Stalite is also a minor source of hazardous air pollutants (HAPs).

III. Purpose of Application

Permit application No. 8400013.22A was received on October 14, 2022 and deemed complete for a significant Title V modification. Carolina Stalite is submitting this application requesting to change the SO_2 continuous emission monitoring system (CEMS) averaging period from a 3-hr rolling average basis to a 24-hr block average basis. There is no construction, there are no new sources, and this is not considered a plant expansion. The request change does not involve changing any numeric limit in the permit. This permit action will address the following sources and control devices associated with the application:

One lightweight aggregate rotary expansion kiln with clinker cooler fired with coal, No. 2 fuel, and natural gas (ID No. ES-7) associated with one pulse jet bagfilter with evaporative cooling and bleed-in air flue gas cooling system and a flue gas desulfurizing process consisting of lime slurry injection system (ID No. CD-7B) and,

One lightweight aggregate rotary expansion kiln with clinker cooler fired with coal, No.2 fuel, and natural gas (ID No. ES-8) associated with one pulse jet bagfilter with evaporative cooling and bleed-in air flue gas cooling system and a flue gas desulfurizing process consisting of lime slurry injection system (ID No. CD-8B).

IV. History/Background/Application Chronology

August 23, 2022 – Permit 03225T43 was issued.

September 28, 2022 – The facility was inspected by MRO engineer Denis Hayes and the facility appeared to operate in compliance with all applicable regulations and permit conditions at the time of the inspection.

October 14, 2022 – Permit 8400013.22A was received for a Title V significant modification and a permit acknowledgement was sent to the facility.

January 31 -February XX 2023 – The facility, Mooresville Regional Office, and Stationary Compliance Section were requested by the Permitting Section to comment on the draft permit modification. Comments were received and included in the permit.

TBD, 2023– TVEE changes were approved by Jenny Sheppard TVEE Coordinator.

TBD, 2023 – Permit 03225T43 was issued.

V. Permit Modifications/Changes and TVEE Discussion

The following changes were made to Air Permit No. 03225T43:*

Page No.	Section	Description of Changes
Cover and throughout	Throughout	Updated all tables, dates, and permit revision numbers. Permit was updated with the latest Permit Shell 7.0.
Throughout	Permit	Changed: Permit number, replaces permit number, effective date, application number, effective date of permit.
16	Sections 2.1 B.2.c.ii.	Updated 15A NCAC 02D .0516 sulfur dioxide regulatory monitoring language from three hour rolling average to 24-hour block average using CEMs.
55-63	Section 4	The General Conditions were updated to the latest version of DAQ shell.
64	General Conditions	Moved List of Acronyms to page 3 of the permit.

*This list is not intended to be a detailed record of every change made to the permit but a summary of those changes.
There were no changes required to the Title V Equipment Editor (TVEE) under this Title V modification application since there was no changes to any emission sources or control devices.

VI. Statement of Compliance

Five-year compliance history

On December 19, 2017, a NOV was issued for failure to monitoring, recordkeeping and reporting of SO_2 (Sulfur Dioxide) CEMS (Continuous Emission Monitoring System) which results in exceedance of SO_2 emission limits. Malfunction incident reports indicated absence of corrective actions to the malfunction incident. No enforcement action was taken for this monitoring violation.

A Notice of Deficiency was issued on February 7, 2018, for a late quarterly report. No enforcement action was taken for the late report.

On June 11, 2019, a NOV was issued for inadequate monitoring of the wet suppression systems (ID Nos. APJC-1S, FCS-6S, and FCS-3S) installed on the crushers (ID Nos. APJC-1, FCS-2, and FCS-3) for proper operation. No enforcement action was taken for this violation.

On January 22, 2021, a Notice of Violation (NOV) was issued for failure to perform the required test on the lightweight aggregate kiln (ID No. ES-8) with in required timeframe. This issue was resolved on March 9, 2021.

On March 24, 2022, a Notice of Violation (NOV) and Notice of Recommendation of Enforcement was issued for not complying with the SO_2 emissions limit in Specific Condition 2.1.B.2 of Air Permit No. 03225T42. There were two (2) exceedances of the applicable standard, which occurred on July 27, 2021 (2.4 lb/MMBtu) and October 30, 2021 (2.6 lb/MMBtu) from unknown causes.

During the most recent inspection conducted on September 28, 2022, Denise Hayes of the MRO indicated that the facility appeared to operate in compliance with all applicable regulations and permit conditions at the time of inspection.

VII. Application Description

There were no changes to the emission sources, control devices, monitoring equipment, and potential emissions for this Title V permit modification application. The facility sent the following information about the proposed modification to update the facility's sulfur dioxide monitoring:

On September 15, 2022, representatives from Carolina Stalite and Trinity Consultants met with DAQ staff regarding the averaging period for the SO_2 CEMS for Kilns ES-7 and ES-8 currently operating at the facility. The SO_2 limit for the referenced kilns is 2.3 pounds per million BTU heat input (lb/MMBtu), the DAQ SIP limit as expressed in 15A NCAC 02D .0516.

These two kilns must comply with the 2.3 lb/MMBtu limit by utilizing the CEMS and determining compliance on a three-hour rolling average. This averaging period has been in the permit since Carolina Stalite bought the facility from Giant Cement in 2004.

In 2021, Carolina Stalite unfortunately had two separate violations of the 2.3 lb/MMBtu, three-hour rolling average limit. These violations were evaluated by DAQ, and Carolina Stalite was issued a Notice of Violation and assessed a civil penalty. Complying with the three-hour rolling average had not been an issue, but the recent exceedance and assessment of a civil penalty has caused Carolina Stalite to re-evaluate the three-hour rolling average limit and its accuracy and applicability to the kilns.

During the meeting, the DAQ inquired about the permit history associated with the three-hour rolling average limit. Regarding the history of the three-hour rolling average limit, the limit was transferred from the Giant Cement permit and previous owners, Carolina Solite's permit. Carolina Solite principally burned hazardous waste as a fuel, and there were a lot of local community concerns in the area surrounding the Aquadale operations while burning hazardous waste. It can only be speculated that the three-hour rolling average limit was set by DAQ as part of the negotiations for burning hazardous waste. Carolina Stalite has no records for the site associated with the Giant

Cement/Carolina Solite operations or any of its permitting activities. The facility believes the site history of the three-hour rolling average limit for the two referenced kilns might be a moot point in assessing the correct averaging period for the SO_2 SIP standard.

In the early to mid-1970's, the SIP limits (SO_2 and 02D .0516 in this case) were developed as a result of modeling analyses that were conducted by the states and the USEPA to demonstrate compliance with the primary National Ambient Air Quality Standards (NAAQS) for the annual and 24-hr standards. The fundamental concept associated with the SIP is that compliance with the SIP ensures compliance with the NAAQS. As the short-term NAAQS would be the easiest to exceed, the actual SIP emission limits were based on the 24-hour periods.

At the request of Carolina Stalite, Trinity Consultants conducted a sampling of NC DAQ permitted sources that are operating coal-fired combustion sources, which would have significant SO_2 emissions, and which demonstrate compliance with underlying regulatory requirements through the utilization of an SO_2 CEMS. This data is summarized in the following Table 1:

Table 1 - Comparison of $S0_2$ CEMS Compliance Requirements

Permit Holder	Emission Source	Applicable Regulation	SO_2 CEMS Averaging Period
Carolina Stalite, Gold Hill	Kiln 7	02D .0516	24-hr block average
Carolina Stalite, Aquadale	Kiln 9	02D .0516	24-hr block average
Duke, Cliffside	Unit 5	02D .0501(c) to comply with NAAQS	24-hr block average
Duke, Cliffside	Unit 6	NSPS Da & Clean Smokestacks	30-day rolling average
Duke, Roxboro	Units 1-4	02D .0501(c) to comply with NAAQS	24-hr block average

The information in Table 1 above concludes for sources that are demonstrating compliance with either the NAAQS or SIP via 02D .0501(c) or 02D .0516 while utilizing an SO_2 CEMS, that the DAQ has determined that the correct averaging period should be a 24-hr block averaging period. As such, compliance with 02D .0516 for Kilns 7 and 8 at the Aquadale site should more appropriately be determined on a 24-hr block averaging period. After discussing our SO_2 CEMS averaging period with DAQ staff, Carolina Stalite has requested a significant modification of their permit to change the SO_2 CEMS averaging period from a 3-hr rolling average basis to a 24-hr block average basis.

As a result of this modification, the following updates were made to permit Section 2.1 B.2.ii:

ii. The CEMS data shall be used to determine compliance with the sulfur dioxide emission limitations in Section 2.1 B.2.a as follows:
   A. The 24-hour block average shall be determined by averaging hourly continuous emission monitoring system values over a 24-hour block period beginning at midnight (12:00 A.M. EST).
   B. To compute the 24-hour block average, the average hourly values shall be summed, and the sum shall be divided by 24.

   If the CEMS detects any 24-hour block average sulfur dioxide emission rate in exceedance of the 2.3 pounds per million Btu heat input rate for the CEMS, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

~~compliance with the sulfur dioxide emission standard shall be demonstrated based on a three-hour rolling average of the sulfur dioxide exhaust gas concentration measured by the CEMS. If any 3-hour block average exceeds 2.3 pounds per million Btu heat input, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.~~

VIII. Regulatory Review/Equipment Changes

The facility is currently subject to the following regulations:

A. 15A NCAC 02D .0501(e): "Compliance with National Ambient Air Quality Standards"
B. 15A NCAC 02D .0511: "Particulates from Lightweight Aggregate Processes"
C. 15A NCAC 02D .0515: "Particulates from Miscellaneous Industrial Processes"
D. 15A NCAC 02D .0516: "Sulfur Dioxide Emissions from Combustion Sources"
E. 15A NCAC 02D .0521: "Control of Visible Emissions"
F. 15A NCAC 02D .0524: "New Source Performance Standards (40 CFR 60, Subpart UUU)"
G. 15A NCAC 02D .0614: "Compliance Assurance Monitoring"
H. 15A NCAC 02D .1806: "Control and Prohibition of Odorous Emissions"
I. 15A NCAC 02D .1100: "Toxic Air Pollutant Emissions Limitation and Reporting Requirements"
J. 15A NCAC 02Q .0317: "Avoidance for 15A NCAC 02D .0530: "Prevention of Significant Deterioration""

For a discussion of MACT, CAM, and PSD requirements, see Section IX. There are no regulatory changes associated with this modification except for 15A NCAC 02D .0516. Thus, a detailed regulatory discussion is only for the applicable regulations and emissions sources directly related to this modification.

15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES
This regulation applies to any source of combustion that emits sulfur dioxide, which is formed by the combustion of sulfur in fuels, wastes, ores, and other substances. This rule does not apply to sources subject to sulfur dioxide standards in NSPS and MACT standards under 02D .0524 and .1111, respectively. Sources subject to this standard with this modification have an emission limit of 2.3 pounds of sulfur dioxide per million Btu heat input. The following emission sources at Carolina Stalite Company are subject to this rule:

- Two lightweight aggregate kilns including clinker coolers (ID Nos. ES-7 and ES-8) with associated bagfilters (ID Nos. CD-7B and CD-8B, respectively) - Compliance with this regulation is demonstrated by monitoring, recordkeeping, and reporting sulfur dioxide CEMS data. A sulfur dioxide CEMS (including any required dailuent monitor system) is installed on the exhaust stack of each kiln (ID Nos. ES-7 and ES-8) for monitoring and recordkeeping purposes. Semiannual reporting of a sulfur dioxide emissions contains a summary of the 24-hour block average and maximum sulfur dioxide emissions, and a CEMS performance report is required.
    - 15A NCAC 02D .0516 regulation requires CEMS monitor down time shall not exceed 2 percent. The 2% MD threshold specified for good O&M purposes in this permit is an exception, due to the past compliance history of the facility.
    - 15A NCAC 02Q .0317 (for 02D .0530) regulation requires CEMS monitor down time shall not exceed 5 percent during calendar quarter. The purpose and intent of 5% MD threshold for the PSD regulation is different from 2% MD threshold (6% and 3% for all other facilities) for good O&M.

To demonstrate compliance with PSD Avoidance and/or PSD BACT regulation:
The additional language for data substitution procedure and 5% MD threshold is added in the permit in order:
1) to prevent the facility from reporting zero emissions for the hours when the emission unit is operating and the CEMS data are not available, and
2) requires facility to report % MD for the operating hours when CEMS data are not available but filled in with data substitution procedure.

Note, for all other facilities, the CEMS evaluation for good O&M purposes is based on 6% for one quarter and 3% for two consecutive quarter. This threshold is generally not specified in the permit. It is evaluated during the review of quarterly CEMS EERs based on guidance document NCCEP (North Carolina's Continuous Monitoring Enforcement Plan).

IX. NSPS, NESHAPS/MACT, PSD, 112(r), CAM

NSPS

This facility is subject to New Source Performance Standards (NSPS), under 40 CFR Part 60. This permit modification does not affect this status.

- 40 CFR 60 Subpart UUU for Standards of Performance for Calciners and Dryers in Mineral Industries – This regulation applies to each calciner and dryer at a mineral processing plant that is constructed, modified, or reconstructed after April 23, 1986. Rotary kilns in the lightweight aggregate industry are considered calciners. Therefore the lightweight aggregate kilns (ID Nos. ES-8, and ES-9) at this facility are subject to this regulation.

  [Per Sections 60.2 and 60.14 of 40CFR, kiln 8 will be deemed as "modified". Per EPA applicability determination (EPA Region 4 letter from Douglas Neeley dated October 9, 2002, copy attached), the kilns at Carolina Stalite facility may be subject to NSPS Subpart UUU, if it is constructed, modified or reconstructed after April 23, 1986. The kiln 8 is a "grandfathered" source for NSPS UUU, but it will be deemed "modified" due to installation of clinker cooler on kiln 8 and the increase in hourly particulate emission (measured as kg/hr) rate of kiln 8. Hence, the kiln 8 now becomes subject to this regulation. Note that per EPA, kilns at Carolina Stalite facility will be deemed as "calciner" for purposes of UUU Subpart. Also, as per company, the kilns at this facility are considered expansion furnaces under "calciner" definition and are like perlite and vermiculite expansion furnaces in operation.

  Both kilns (ID Nos. ES-8 and ES-9) must meet the following emission standards under NSPS:
  - PM emissions shall not exceed 0.092 gram per dry standard cubic meter (g/dscm) [0.040 grain per dry standard cubic foot (gr/dscf)]
  - Visible emissions shall not exceed 10 percent opacity (when not controlled by a wet scrubber).

  The bagfilter is expected to continue to achieve compliance with the PM and opacity standards in NSPS Subpart UUU. NSPS Subpart UUU exempts perlite expansion furnaces or vermiculite expansion furnaces from the requirement of a continuous opacity monitor (COMs) if the furnaces use a dry control device for PM. DAQ has concluded kiln 8 (ID No. ES-8) is similar in operation to a perlite rotary expansion furnace or a vermiculite expansion furnace and uses a dry control device (aka a bagfilter). Thus, kiln ES-8 is exempt from requirements to install a COM, in accordance with 40 CFR 60.734(c).

To ensure compliance with the opacity limit, the facility conducts weekly visible emission observations from the kiln and associated recordkeeping and reporting. No changes to the permit are required and continued compliance is anticipated.

DAQ similarly exempts kiln 9 (ID No. ES-9) from the requirement of COM for PM emissions to be controlled by a baghouse.

- 40 CFR 60 Subpart IIII for Standards of Performance for Stationary Compression Ignition Internal Combustion Engines – This regulation applies to compression ignition engines manufactured or reconstructed after July 11, 2005. These engines (ID Nos. PSG-1, ATS-1-eng, RUC-1, and APJC-1-eng) either predate the compliance date or are self-propelled and/or transportable and temporary. These units will not operate at the same location for a period of 12 consecutive months. The federal criteria indicate therefore they are regulated as "no-road engines" and are not subject.

NESHAPS/MACT

This facility is NOT subject to the National Emission Standards for Hazardous Air Pollutants, 40 CFR 63 for major souces of HAPs. Since there are no proposed changes to the permit, this permit modification does not trigger any additional NESHAP rules or requirements.

- 40 CFR 63, Subpart ZZZZ for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines – This regulation applies to stationary engines manufacture/reconstructed after July 12, 2006 at an area source of HAPs. These engines (ID Nos. PSG-1, ATS-1-eng, RUC-1, and APJC-1-eng) would possibly be subject; however, they are not stationary units. Therefore, this rule does not apply. This permit modification does not affect this status.

PSD

Stanly County is designated as attainment/unclassifiable for CO, ozone and $PM_{2.5}$ (EPA has deferred classification for SO_2). The facility is a major source under the PSD program. The facility currently has PSD avoidance conditions for NOx, SO_2, PM, and PM_{10}. There is no potential increase in any PSD regulated pollutants above the major source threshold under this permit modification. This permit application does not involve any modification that will results in a "significant emissions increase." Therefore, there are no PSD implications under this permit modification.

- 15A NCAC 02Q .0317, Avoidance Conditions – The facility has accepted the following conditions to avoid applicability of 02D .0530, Prevention of Significant Deterioration (PSD):
  - Kilns ID Nos. ES-7 and ES-8: Combined total emissions of nitrogen oxides (NO_x) shall not exceed 416 tons per consecutive 12-month period.
  - Kiln ID No. ES-8: Emissions of nitrogen oxides (NO_x) shall not exceed 135.4 tons per consecutive 12-month period.
  - Kiln ID No. ES-8: Emissions of sulfur dioxide (SO_2) shall not exceed 343.2 tons per consecutive 12-month period.
  - Kiln ID No. ES-8: Emissions of particulate matter shall not exceed 36.8 tons per consecutive 12-month period.
  - Kiln ID No. ES-8: Emissions of PM_{10} shall not exceed 26.8 tons per consecutive 12-month period.

BACT Limits

Stalite is subject to BACT limits under 02D .0530 for PM_{10}, $PM_{2.5}$, NO_x and SO_2. The BACT limits are associated with the project to construct and operate one lightweight aggregate kiln (ID No. ES-9) and associated material handling and storage activities. The BACT limits were added to the permit

under Air Permit No. 03225T36 issued on March 22, 2010, and the permit review for that permit provides details about the establishment of the BACT limits. The BACT limits are provided in the table below, and no changes to the permit are required under this permit modification.

Emission Source	Pollutant	BACT Limit	Control Devices
Light weight aggregate (ID No. ES-9)	SO_2	2.75 lb/ton of clinker (CEM: 30-day rolling average) and 1 %w coal sulfur content (based upon coal supplier certification per total shipment received)	lime slurry injection
	NOx (as NO_2)	0.84 lb/million Btu heat input (Stack Test: 3-hour average)	good combustion control
	PM_{10}	0.20 lb/ton of clinker (filterable and condensible) and 0.01 grain/dscf (filterable only) (Stack Test: 3-hour average)	baghouse
	$PM_{2.5}$	0.12 lb/ton of clinker (filterable and condensible) and 0.01grain/dscf (filterable only) (Stack Test: 3-hour average)	Baghouse
Raw Material Conveyors (ID Nos. RCS-91, RCS-94 and RCS-95)	PM_{10} (filterable only) $PM_{2.5}$ (filterable only)	7% opacity (6-minute average) 7% opacity (6-minute average)	None None
Clinker Conveyors (ID Nos. FCS-44 and FCS-47)	PM_{10} (filterable only) $PM_{2.5}$ (filterable only)	7% opacity (6-minute average) 7% opacity (6-minute average)	water spray water spray

Emission Source	Pollutant	BACT Limit	Control Devices
Clinker Conveyors (ID Nos. FCS-45 and FCS-46)	PM_{10} (filterable only)	7% opacity (6-minute average)	None
	$PM_{2.5}$ (filterable only)	7% opacity (6-minute average)	None
Coal Conveyors (ID Nos. CCB-4 and CCB-5)	PM_{10} (filterable only)	10% opacity (6-minute average)	None
	$PM_{2.5}$ (filterable only)	10% opacity (6-minute average)	None
Raw Material Silos (ID Nos. RCS-92 and RCS-93)	PM_{10} (filterable only)	7% opacity (6-minute average)	None
	$PM_{2.5}$ (filterable only)	7% opacity (6-minute average)	None
Dust Silo (ID No. DS-3C)	PM_{10} (filterable only)	7% opacity (6-minute average)	baghouse
	$PM_{2.5}$ (filterable only)	7% opacity (6-minute average)	baghouse
Coal Silo (ID No. CCS-1)	PM_{10} (filterable only)	20% opacity (6-minute average)	None
	$PM_{2.5}$ (filterable only)	20% opacity (6-minute average)	None
Clinker Pile (ID No. FP-2)	PM_{10} (filterable only)	No visible emissions (Method 22)	water spray
	$PM_{2.5}$ (filterable only)	No visible emissions (Method 22)	water spray
Coal Hopper (ID No. CCH-3)	PM_{10} (filterable only)	10% opacity (6-minute average)	None
	$PM_{2.5}$ (filterable only)	10% opacity (6-minute average)	None

Rule 15A NCAC 02D .0530(l) incorporates by reference 40 CFR 51.21(r)(2) regarding the period of validity of approval to construct. The permit extension provision in 40 CFR 52.21(r)(2) establishes that "approval to construct [a new major stationary source or major modification] shall become invalid if construction is not commenced within 18 months after receipt of such approval, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time." In a letter dated November 10, 2010, Carolina Stalite stated they had started foundation work on kiln ES-9. Construction began on October 27, 2010, although construction of the kiln and associated equipment has not been completed at this time. Should the facility want to complete construction of this emission source in future, Carolina Stalite may need to request an extension or conduct a re-evaluation of the BACT limits. The BACT limits for kiln ES-9 will not be updated under this permit modification.

112(r) – The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in the Rule. This permit application does not affect this status.

CAM – 40 CFR 64 requires that a compliance assurance monitoring plan be developed for all equipment located at a major facility, that have pre-controlled emissions above the 100 tons/yr major source threshold and use a control device to meet an applicable standard. The CAM rule are applicable to emission units that meet all the following criteria:

Emission Unit	Criteria #1: Does the Source Use a Control Device?	Criteria #2: Pre-control PTE ≥100% of major source thresholds?	Criteria #3: Exempt Under 40 CFR 64.2(b)?	CAM Source?
ES-7	**Yes (PM)**	**Yes**	**No**	**Yes**
ES-8	**Yes (PM)**	**Yes**	**No**	**Yes**
ES-9	**Yes (PM, PM_{10}, $PM_{2.5}$)**	**Yes**	**No**	**Yes**

Kilns 7 and 8 (ID Nos. ES-7 and ES-8) are subject to CAM requirements. Kilns 7 and 8 (ID Nos. ES-7 and ES-8) are currently controlled by bagfilters (ID Nos. CD-7B and CD-8B) and are subject to CAM. Requirements for CAM for these emission sources were added under Air Permit No. 03225T30 issued on May 23, 2007. The CAM result was met through 02D .0511(PM) and 02D .0524 (PM and visible emissions) by monitoring.

Kiln 9 (ID No. ES-9) is subject to CAM requirements. Kiln ES-9, which will be controlled by bagfilter (ID No. CD-9B), was added to the permit under Air Permit No. 03225T36 issued on March 22, 2010. The kiln is subject to CAM because pre-controlled emissions of PM_{10} and SO_2 exceed the major source threshold. A CEMS for SO_2 on kiln ES-9 is required to ensure compliance with 15A NCAC 02D .0516. The CEMS is considered sufficient monitoring such that a CAM plan is not required for this pollutant. A CAM plan is required for particulate matter (PM, PM_{10}, and $PM_{2.5}$) and included in the permit. Stalite preforms daily visible emission monitoring with five excursions allowed per 6-month period. It met through regulation 02D .0511 (PM), 02D .0524 (PM and visible emissions), 02D .0530 (PM_{10} and $PM_{2.5}$) by monitoring.

(ES-9 has not been installed. **ES-7** was shut down since October 26, 2010 due to economic reason and has not been operated since.)

The facility is currently subject to CAM. This permit modification does not affect this status. The facility is expected to be in continued compliance.

X. Facility Wide Air Toxics (State-enforceable Only)

North Carolina General Statute (NCGS) 143-215.107(a) was approved on June 28, 2012 and this Act exempts from State Air Toxics those sources of emissions that are subject to certain Federal emissions requirements under 40 CFR Part 61 (NESHAP), Part 63 (MACT). This statute was placed into the North Carolina State Air Toxics regulations on May 1, 2014 under Regulation 15A NCAC 02Q .0702(a)(27).

Pursuant to 15A NCAC 02D .1100, 15A NCAC 02Q .0700, and in accordance with the approved application for an air toxic compliance demonstration, the emission limits contained in the current

permit shall not be exceeded. Carolina Stalite is currently subject to modeled emissions rates determined for 15A NCAC 02D .1100 on a source-by-source basis. Compliance was demonstrated on a source-by-source basis for the facility and the current permit contains source-by-source TAP limits. The most recent air modeling was conducted when a crusher, portable screen feed hopper and two engines were added to the permit under Air Quality Permit No. 03225T38 issued on October 12, 2011. The current permit contains two sets of limits to ensure toxic air pollutants do not exceed acceptable ambient levels. One set of limits is to be followed before the commencement of operation of kiln (**ID No. ES-9**), and the other applies after the commencing operation of this kiln.

The sources will continue to comply with all requirements for 15A NCAC 02D .1104 and 15A NCAC 02Q .0700. There are no other unacceptable risk sources with this Title V permit modification and the current status of the facility is not affected.

XI. Facility Emissions Review

The actual emissions from the annual reporting inventories are listed in the first page of this review.

XII. Public Notice/EPA and Affected State(s) Review

A thirty-day public notice period and a forty-five-day EPA review period is required for the Title V Permit significant modification. 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. 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 pursuant shall be provided to the 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.

EPA's 45 Day Review period
Brad Akers (U.S. EPA, Region IV) was provided a PROPOSED permit for review on TBD, 2023. EPA 45-day review period ended on TBD, 2023. No comments were offered or received.

Public Notice
The 30-day public notice of the PROPOSED permit was posted on the NCDAQ website on TBD, 2023. No comments were offered or received.

XIII. Other Regulatory Considerations

- No fee is required for this permit modification.
- The appropriate number of application copies was received by the DAQ.
- A Professional Engineer's seal is not required for this application.
- A zoning consistency determination is not required for this application.
- Stanley County has triggered increment under PSD for PM_{10}, NO_x, and SO_2. However, this one step significant modification of your Title V permit does not consume or expand increments for any pollutants.
- The application was signed by Jody Wall, General Manager on October 6, 2022.

XIV. Recommendations

The Title V permit modification application for Carolina Stalite Company in Norwood, Stanley County, North Carolina has been reviewed by DAQ to determine compliance with all procedures and

requirements. DAQ has determined that this facility is complying or will achieve compliance, as specified in the permit, with all requirements that are applicable to the affected sources. The DAQ recommends the issuance of Air Permit No. 03225T44.