

Aemilia Hamel

From: Air.Pollution Control
Sent: Thursday, 2 June, 2022 07:36
To: APC Permitting
Subject: FW: Revised Construction Air Permit Application, Source No. 06-0282-25
Attachments: Wacker_Source_06-0282-25_June02_Permit_App_Revision.pdf

From: Copeland, Jeremy <Jeremy.Copeland@wacker.com>
Sent: Thursday, June 2, 2022 6:34 AM
To: Air.Pollution Control <Air.Pollution.Control@tn.gov>
Cc: Derek Briggs <Derek.Briggs@tn.gov>
Subject: [EXTERNAL] Revised Construction Air Permit Application, Source No. 06-0282-25

***** This is an EXTERNAL email. Please exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email - STS-Security. *****

Derek,

Per our discussions, please see the attached revised construction air permit application. Please contact me directly with any questions.

Thank You,

JEREMY COPELAND, CHMM
Environmental Manager
Wacker Polysilicon North America LLC
PO Box 446
553 Wacker Blvd NW, Building D112
Charleston, TN 37310-0446, USA
Tel. +1 423 780 7953
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jeremy.copeland@wacker.com

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Thank you for your cooperation.



Jeremy Copeland, CHMM
Environmental Manager

Wacker Polysilicon North America LLC
P.O. Box 446
Charleston, TN 37310-0446
Tel. 423-780-7953
Jeremy.Copeland@wacker.com

June 02, 2022
Division of Air Pollution Control
Tennessee Department of Environment and Conservation
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Delivered via email

RE: *Wacker Polysilicon North America LLC*
Emission Source Reference No. 06-0282-25, Additional Information Request

Dear Mr. Briggs,

Per the request in the May 27th letter issued to Wacker from the Division of Air Pollution Control, Wacker is providing updated application forms APC 100, 101 & 102 to reflect the best estimates of air flow rates from the dust collection systems. The only process data that changed on APC form 101 was in section 7. We found that the emissions quantities in section 10 of the forms were correct because the correctly estimated flow rates were used for the emission calculations, but incorrect flow rates had been populated in section 7 of the forms. APC 102 form is also being updated with the silicon grinding equipment manufacturer state design capacity of 16,535 lbs/hr. Wacker's overall polysilicon production capacity is limited by the downstream reactors that receive the silicon, at a maximum quantity of 9,001 lbs/hr. This production capacity is limited in condition S5-1 of conditional major operating permit number 474253. With this value being recognized as the overall plant production capacity, this same quantity has been used in the APC 102 form as the actual input rate of silicon. An updated agreement letter for the PM limit for this source is not necessary because the current one dated March 25, 2022 is still valid due to the emissions values on the revised APC 101 forms having not changed.

Wacker is requesting an opportunity to review the final draft of the permit prior to issuance as our understanding is some of the permit conditions may be changing since the original draft was published.

If you have any questions or comments regarding this topic, please do not hesitate to contact me directly at 423.780.7953.

Cordially,

Jeremy Copeland, CHMM
Environmental Manager
Wacker Polysilicon North America LLC

Attachment 1

Permit Forms

APC 100
(2) APC 101
APC 102



DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF AIR POLLUTION CONTROL
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor, Nashville, TN 37243
Telephone: (615) 532-0554, Email: Air.Pollution.Control@TN.gov

APC 100

**NON-TITLE V PERMIT APPLICATION
FACILITY IDENTIFICATION**

Type or print and submit. Attach appropriate source description forms.			
SITE INFORMATION			
1. Organization's legal name and SOS control number [as registered with the TN Secretary of State (SOS)] Wacker Polysilicon North America LLC, SOS No. 588246			
2. Site name (if different from legal name) Wacker, Charleston			
3. Is a construction permit application fee being submitted? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (see instructions for appropriate fee to submit)			
4. Site address (St./Rd./Hwy.) 553 Wacker Blvd. NW			County name Bradley
City Charleston		Zip code 37310	5. NAICS or SIC code 3339
6. Site location (in lat. /long.)	Latitude 35.298673138	Longitude -84.800751707	
CONTACT INFORMATION (RESPONSIBLE PERSON)			
7. Responsible person/Authorized contact Ken Collins		Phone number with area code (423) 780-8800	
Mailing address (St./Rd./Hwy.) PO Box 446		Fax number with area code	
City Charleston	State TN	Zip code 37310	Email address Ken.Collins@wacker.com
CONTACT INFORMATION (TECHNICAL)			
8. Principal technical contact Jeremy Copeland		Phone number with area code (423) 780-7953	
Mailing address (St./Rd./Hwy.) PO Box 446		Fax number with area code	
City Charleston	State TN	Zip code 37310	Email address Jeremy.Copeland@wacker.com
CONTACT INFORMATION (BILLING)			
9. Billing contact Jeremy Copeland		Phone number with area code (423) 780-7953	
Mailing address (St./Rd./Hwy.) PO Box 446		Fax number with area code	
City Charleston	State TN	Zip code 37310	Email address Jeremy.Copeland@wacker.com

AIR CONTAMINANT SOURCE(S) INFORMATION

10. Description of air contaminant source(s) and Unique Source ID(s). List, identify, and briefly describe process emission sources, fuel burning installations, and incinerators that are contained in this application and include a Unique Source ID for each source. The Unique Source ID is a name/number/letter, which uniquely identifies the air contaminant source(s), like Boiler #1, Paint Line #1, Engine #1, etc. (see instructions for more details)

This application is for our existing silicon grinding operation. Previously this operation was designated an insignificant activity on February 14, 2017, at Wacker's request. Wacker has experiencing operating difficulties with this operation and desires to vent the emissions from the crushing operation to the outdoors. This portion of the operation previously was ducted back into the unit.

The site emissions identification numbers for the emissions are C218E35 for the silicon unloading and initial conveying and C218E36 for the crushing, screening and conveying operations. This is considered all one operation. Two separate APC 101 forms are included to represent each portion of the operation that have separate particulate control systems and venting.

11. Is the air contaminant source(s) in a nonattainment area? If "Yes", then minor source BACT must be addressed. Yes No

☐
☒

12. Normal operation:	Hours/Day 12	Days/Week 7	Weeks/Year 52	Days/Year 365
13. Percent annual throughput	Dec. – Feb. 25	March – May 25	June – August 25	Sept. – Nov. 25

TYPE OF PERMIT REQUESTED (check appropriate box)

14. Operating permit <input type="checkbox"/>	Date construction started	Date completed	Date of ownership change (if applicable)
	Last permit number(s)		Emission Source Reference Number(s)
Construction permit <input checked="" type="checkbox"/>	Last permit number(s) None		Emission Source Reference Number(s)

If you chose Construction permit above, then choose either New Construction, Modification, or Location Transfer

New Construction <input type="checkbox"/>	Starting date	Completion date
Modification <input checked="" type="checkbox"/>	Date modification started or will start 07/15/2022	Date completed or will complete 10/30/2022
Location Transfer <input type="checkbox"/>	Transfer date	Address of last location

15. Describe changes that have been made to this equipment or operation(s) since the last construction or operating permit application:

Not Applicable

16. Comments


None

SIGNATURE

Based upon information and belief formed after a reasonable inquiry, I, as the responsible person of the above mentioned facility, certify that the information contained in this application is accurate and true to the best of my knowledge. As specified in TCA Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

17. Signature (application must be signed before it will be processed)

Date



6/2/22

Signer's name (type or print)

Title

Phone number with area code

Ken Collins

Senior Director, Site Leader

(423) 780-8800



DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF AIR POLLUTION CONTROL
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor, Nashville, TN 37243
Telephone: (615) 532-0554, Email: Air.Pollution.Control@TN.gov

APC 101

NON-TITLE V PERMIT APPLICATION
EMISSION POINT DESCRIPTION

Type or print and submit for each stack or air contaminant source. Submit with the APC 100.					
GENERAL IDENTIFICATION AND DESCRIPTION					
1. Organization's legal name and SOS control number [as registered with the TN Secretary of State (SOS)] Wacker Polysilicon North America LLC					
2. Unique Source ID (name/number/letter which uniquely identifies this air contaminant source, like Boiler #1) C218					
3. Unique Emission Point ID (name/number/letter which uniquely identifies this emission point, like Stack #1) C218E35					
4. Brief description of air contaminant source (Attach a diagram if appropriate): Silicon unloading and conveying					
5. Emission point location	Latitude 35.29917634824	Longitude -84.79702033113	6. Distance to nearest property line (Ft.) 1,208		
STACK AND EMISSION DATA					
7. Stack or emission point data: →	Height above grade (Ft.) 22' 4"	Diameter (Ft.) 1' 1.75" x 1' 8.5"	Temperature (°F) 70	% of time over 125°F 0	Direction of exit (Up, down or horizontal) Horizontal
Data at exit conditions: →	Flow (actual Ft. ³ /Min.) 3,500	Velocity (Ft. /Sec.) 74	Moisture (Grains/Ft. ³) 0		Moisture (Percent) 0
Data at standard conditions: →	Flow (Dry std. Ft. ³ /Min.) 3,500	Velocity (Ft. /Sec.) 74	Moisture (Grains/Ft. ³) 0		Moisture (Percent) 0
8. Monitoring device and recording instrument (check all that apply): Opacity monitor <input type="checkbox"/> SO ₂ monitor <input type="checkbox"/> NO _x monitor <input type="checkbox"/> Strip chart <input type="checkbox"/> Electronic data logger <input type="checkbox"/> Other (specify in comments) <input type="checkbox"/> No monitor (none) <input checked="" type="checkbox"/>					
9. Control device. Description of proposed monitoring, recordkeeping, and reporting to assure compliance with emission limits. Include operating parameters of control device (flow rate, temperature, pressure drop, etc.). Particulate filtration utilizing bag filters while measuring pressure drop across filters. Additionally a particulate monitor in the duct exiting the dust collector that can detect a change in dust concentration caused by a broken bag or failing filtration.					

10. Air contaminants. Emission estimates for each air contaminant emitted from this point should be based on stack sampling results or engineering calculations. Calculations should be attached on a separate sheet. (see instructions for more details)								
Air contaminants	Average Emissions (Lbs./Hr.)	Maximum Emissions (Lbs./Hr.)	Concentration	Average Emissions (Ton/Yr.)	Potential Emissions (Ton/Yr.)	Emissions Estimation Method Code *	Control Devices *	Control Efficiency %
Particulate matter (PM)	0.12	0.15	** 0.004	0.43	0.64	6	017	99
Sulfur dioxide (SO ₂)			***					
Carbon monoxide (CO)			PPM					
Volatile organic compounds (VOC)			PPM					
Nitrogen oxides (NO _x)			PPM					
Hydrogen fluoride (HF)								
Hydrogen chloride (HCl)								
Lead (Pb)								
Greenhouse gases (CO ₂ equivalents)								
Hazardous air pollutant (specify)								
Hazardous air pollutant (specify)								
Hazardous air pollutant (specify)								
Hazardous air pollutant (specify)								
Hazardous air pollutant (specify)								
Other (specify)								
Other (specify)								
Other (specify)								
Other (specify)								

11. Comments

Emissions estimations are made based on air pollution control device manufacturer provided information.

SIGNATURE

If this form is being submitted at the same time as an APC 100 form, then a signature is not required on this form. Date this form regardless of whether a signature is provided. If this form is NOT being submitted at the same time as an APC 100 form, then a signature is required.

Based upon information and belief formed after a reasonable inquiry, I, as the responsible person of the above mentioned facility, certify that the information contained in this application is accurate and true to the best of my knowledge. As specified in TCA Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

12. Signature

Date


Signer's name (type or print)
Ken Collins

Title
Senior Director, Site Leader

Phone number with area code
(423) 780-8800

- * Refer to the tables in the instructions for estimation method and control device codes.
- ** Exit gas particulate matter concentration units: Process – Grains/Dry Standard Ft³ (70°F), Wood fired boilers - Grains/Dry Standard Ft³ (70°F), all other boilers – Lbs. /Million BTU heat input.
- *** Exit gas sulfur dioxide concentrations units: Process – PPM by volume, dry bases, and boilers – Lbs. /Million BTU heat input



DEPARTMENT OF ENVIRONMENT AND CONSERVATION
 DIVISION OF AIR POLLUTION CONTROL
 William R. Snodgrass Tennessee Tower
 312 Rosa L. Parks Avenue, 15th Floor, Nashville, TN 37243
 Telephone: (615) 532-0554, Email: Air.Pollution.Control@TN.gov

APC 101

NON-TITLE V PERMIT APPLICATION EMISSION POINT DESCRIPTION

Type or print and submit for each stack or air contaminant source. Submit with the APC 100.												
GENERAL IDENTIFICATION AND DESCRIPTION												
1. Organization's legal name and SOS control number [as registered with the TN Secretary of State (SOS)] Wacker Polysilicon North America LLC												
2. Unique Source ID (name/number/letter which uniquely identifies this air contaminant source, like Boiler #1) C218												
3. Unique Emission Point ID (name/number/letter which uniquely identifies this emission point, like Stack #1) C218E36												
4. Brief description of air contaminant source (Attach a diagram if appropriate): Silicon crushing, screening and conveying												
5. Emission point location	Latitude 35.29913751886	Longitude -84.79683957991	6. Distance to nearest property line (Ft.) 1,158									
STACK AND EMISSION DATA												
7. Stack or emission point data: →	Height above grade (Ft.) 22' 4"	Diameter (Ft.) 1' 1.75" x 1' 8.5"	Temperature (°F) 70	% of time over 125°F 0	Direction of exit (Up, down or horizontal) Horizontal							
Data at exit conditions: →	Flow (actual Ft. ³ /Min.) 7,600	Velocity (Ft. /Sec.) 161.3	Moisture (Grains/Ft. ³) 0		Moisture (Percent) 0							
Data at standard conditions: →	Flow (Dry std. Ft. ³ /Min.) 6,514	Velocity (Ft. /Sec.) 138.2	Moisture (Grains/Ft. ³) 0		Moisture (Percent) 0							
8. Monitoring device and recording instrument (check all that apply): <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">Opacity monitor <input type="checkbox"/></td> <td style="text-align: center;">SO₂ monitor <input type="checkbox"/></td> <td style="text-align: center;">NO_x monitor <input type="checkbox"/></td> <td style="text-align: center;">Strip chart <input type="checkbox"/></td> <td style="text-align: center;">Electronic data logger <input type="checkbox"/></td> <td style="text-align: center;">Other (specify in comments) <input type="checkbox"/></td> <td style="text-align: center;">No monitor (none) <input checked="" type="checkbox"/></td> </tr> </table>						Opacity monitor <input type="checkbox"/>	SO ₂ monitor <input type="checkbox"/>	NO _x monitor <input type="checkbox"/>	Strip chart <input type="checkbox"/>	Electronic data logger <input type="checkbox"/>	Other (specify in comments) <input type="checkbox"/>	No monitor (none) <input checked="" type="checkbox"/>
Opacity monitor <input type="checkbox"/>	SO ₂ monitor <input type="checkbox"/>	NO _x monitor <input type="checkbox"/>	Strip chart <input type="checkbox"/>	Electronic data logger <input type="checkbox"/>	Other (specify in comments) <input type="checkbox"/>	No monitor (none) <input checked="" type="checkbox"/>						
9. Control device. Description of proposed monitoring, recordkeeping, and reporting to assure compliance with emission limits. Include operating parameters of control device (flow rate, temperature, pressure drop, etc.). Particulate filtration utilizing bag filters while measuring pressure drop across filters. Additionally a particulate monitor in the duct exiting the dust collector that can detect a change in dust concentration caused by a broken bag or failing filtration.												

10. Air contaminants. Emission estimates for each air contaminant emitted from this point should be based on stack sampling results or engineering calculations. Calculations should be attached on a separate sheet. (see instructions for more details)

Air contaminants	Average Emissions (Lbs./Hr.)	Maximum Emissions (Lbs./Hr.)	Concentration	Average Emissions (Ton/Yr.)	Potential Emissions (Ton/Yr.)	Emissions Estimation Method Code *	Control Devices *	Control Efficiency %
Particulate matter (PM)	0.26	0.32	** 0.004	0.93	1.40	6	017	99
Sulfur dioxide (SO ₂)			***					
Carbon monoxide (CO)			PPM					
Volatile organic compounds (VOC)			PPM					
Nitrogen oxides (NO _x)			PPM					
Hydrogen fluoride (HF)								
Hydrogen chloride (HCl)								
Lead (Pb)								
Greenhouse gases (CO ₂ equivalents)								
Hazardous air pollutant (specify)								
Hazardous air pollutant (specify)								
Hazardous air pollutant (specify)								
Hazardous air pollutant (specify)								
Hazardous air pollutant (specify)								
Other (specify)								
Other (specify)								
Other (specify)								
Other (specify)								


11. Comments

Emissions estimations are made based on air pollution control device manufacturer provided information

SIGNATURE

If this form is being submitted at the same time as an APC 100 form, then a signature is not required on this form. Date this form regardless of whether a signature is provided. If this form is NOT being submitted at the same time as an APC 100 form, then a signature is required.

Based upon information and belief formed after a reasonable inquiry, I, as the responsible person of the above mentioned facility, certify that the information contained in this application is accurate and true to the best of my knowledge. As specified in TCA Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

12. Signature 		Date 
Signer's name (type or print) Ken Collins	Title Senior Director, Site Leader	Phone number with area code (423) 780-8800

* Refer to the tables in the instructions for estimation method and control device codes.

** Exit gas particulate matter concentration units: Process – Grains/Dry Standard Ft³ (70°F), Wood fired boilers - Grains/Dry Standard Ft³ (70°F), all other boilers – Lbs. /Million BTU heat input.

*** Exit gas sulfur dioxide concentrations units: Process – PPM by volume, dry bases, and boilers – Lbs. /Million BTU heat input



DEPARTMENT OF ENVIRONMENT AND CONSERVATION
 DIVISION OF AIR POLLUTION CONTROL
 William R. Snodgrass Tennessee Tower
 312 Rosa L. Parks Avenue, 15th Floor, Nashville, TN 37243
 Telephone: (615) 532-0554, Email: Air.Pollution.Control@TN.gov

APC 102

NON-TITLE V PERMIT APPLICATION PROCESS OR FUEL BURNING SOURCE DESCRIPTION

Type or print. Submit with the APC 100.			
GENERAL IDENTIFICATION AND DESCRIPTION			
1. Organization's legal name and SOS control number [as registered with the TN Secretary of State (SOS)] Wacker Polysilicon North America LLC, SOS No. 588246		2. Emission Source Reference Number	
3. Is this air contaminant source subject to an NSPS or NESHAP rule? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes, list rule citation, including Part, Subpart, and applicable Sections:			
4. Unique Source ID (see instructions) C218		5. Unique Emission Point ID (see instructions) C218E35 & 36	
6. Description of air contaminant source Silicon crushing operation for raw material silicon feed.			
7. Type of air contaminant source (Check only one option to the right)			
Process Emission Source: For each process emission source, submit a separate application. (Check at right and complete lines 8, 9, and 14)			<input checked="" type="checkbox"/>
Process Emission Source with in process fuel: Products of combustion contact materials heated. For each process emission source, submit a separate application. (Check at right and complete lines 8 through 14)			<input type="checkbox"/>
Non-Process fuel burning source: Products of combustion do not contact materials heated. Complete this form for each boiler or fuel burner and complete a Non-Title V Emission Point Description Form (APC 101) for each stack. (Check at right and complete lines 10 through 14)			<input type="checkbox"/>
PROCESS EMISSION SOURCE DESCRIPTION AND DATA			
8. Type of operation: Continuous <input checked="" type="checkbox"/> Batch <input type="checkbox"/>		Normal batch time	Normal batches/day
9. Process material inputs and In-process solid fuels	Diagram reference	Input rates (pounds/hour)	
		Design	Actual
A. 39,424 tons/year		16,535	9,001
B.			
C.			
D.			
E.			
F.			
G.			
Totals			

* A simple process flow diagram must be attached.

DESCRIPTION OF BOILER, BURNER, ENGINE, OR OTHER FUEL BURNING SOURCE							
10. Boiler or burner data: (Complete lines 10 through 14 using a separate form for each boiler, burner, etc.)							
Serial Number				Type of firing***			
Rated horsepower		Rated input capacity (10 ⁶ BTU/Hr.)		Other rating (specify capacity and units)			
Date constructed		Date manufactured		Date of last modification (explain in comments below)			
** Source with a common stack will have the same stack number. *** Cyclone, spreader (with or without reinjection), pulverized (wet or dry bottom, with or without reinjection), other stoker (specify type, hand fired, automatic, or other type (describe below in comments)).							
FUEL USED IN BOILER, BURNER, ENGINE, OR OTHER FUEL BURNING SOURCE							
11. Fuel data: (Complete for a process emission source with in process fuel or a non-process fuel burning source)							
Primary fuel type (specify)				Standby fuel type(s) (specify)			
Fuels used	Annual usage	Hourly usage		% Sulfur	% Ash	BTU value of fuel	(For APC use only) SCC code
		Design	Average				
Natural gas:	10 ⁶ Cu. Ft.	Cu. Ft.	Cu. Ft.	///////// /////////	//// ////	1,000	
#2 Fuel oil:	10 ³ Gal.	Gal.	Gal.		//// ////		
#5 Fuel oil:	10 ³ Gal.	Gal.	Gal.		//// ////		
#6 Fuel oil:	10 ³ Gal.	Gal.	Gal.		//// ////		
Coal:	Tons	Lbs.	Lbs.				
Wood:	Tons	Lbs.	Lbs.	///////// /////////	//// ////		
Liquid propane:	10 ³ Gal.	Gal.	Gal.	///////// /////////	//// ////	85,000	
Other (specify type & units):							
12. If Wood is used as a fuel, specify types and estimate percent by weight of bark							
13. If Wood is used with other fuels, specify percent by weight of wood charged to the burner.							

14. Comments

This form is for the whole silicon unloading and crushing process. It includes two emission points. This process was formerly granted an insignificant activity request due to emissions calculations used reflective of no emission controls and exhaust being ducted back into the system to recapture particulate. Due to operating difficulties with this model, now the unit will be ducted outside the building and emissions quantities are based on the existing particulate controls in place.

SIGNATURE

If this form is being submitted at the same time as an APC 100 form, then a signature is not required on this form. Date this form regardless of whether a signature is provided. If this form is NOT being submitted at the same time as an APC 100 form, then a signature is required.

Based upon information and belief formed after a reasonable inquiry, I, as the responsible person of the above mentioned facility, certify that the information contained in this application is accurate and true to the best of my knowledge. As specified in TCA Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

15. Signature

Date

Signer's name (type or print)

Ken Collins

Title

Senior Director, Site Leader

Phone number with area code

(423) 780-8800