

FILE 06-0284 / Log # 9148

September 27, 2013  
Sent via Federal Express

Robin Callaghan  
575 Mountain Ave  
Murray Hill, NJ 07974  
(908)771-1616  
Robin.Callaghan@Linde.com

Mr. Mashallah Yousefzadeh  
Tennessee Department of Environment and Conservation  
William R. Snodgrass TN Tower  
312 Rosa L. Parks Ave, 15th Floor  
Nashville, TN 37243

*Subject: Permit Extension Request for Construction Permit 965288P  
Linde Gas North America, LLC - Charleston Facility*

Dear Mr. Yousefzadeh:

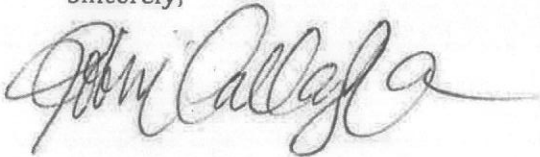
Linde Gas North America, LLC submitted a construction permit application in January 2012 for a new hydrogen reformer facility to be constructed in Charleston, TN that is co-located with a Wacker Polysilicon North America, LLC (Wacker) facility. On May 31, 2012 Permit No. 965288P was issued to Linde Gas North America, LLC for construction of a new hydrogen reformer facility. The expiration date of that construction permit is indicated as November 1, 2013.

As discussed recently in a meeting with Wacker and the Tennessee Department of Environment and Conservation (TDEC) on September 13, 2013, construction of the Wacker facility has not yet reached a point allowing the co-located Linde facility to commence construction.

Therefore, at this time Linde is requesting a 18-month extension of the expiration date of Permit No. 965288P, per the Division of Air Pollution Control Rule 1200-03-09-.01. No changes are necessary or requested to the existing permit or permit conditions, as application documentation submitted for the issuance of the current permit is still valid. Please find attached updated APC-100 application forms as requested by Elizabeth Keen in phone conversations regarding this issue in May 2013, in order to facilitate this permit extension request. The attached APC-100 forms represent the two emission units which are part of the current permit.

Thank you for your review of the enclosed information. Please feel free to contact Justin Fickas at (678) 441-9977 or me at (908) 771-1616 if we can answer any additional questions.

Sincerely,



Robin Callaghan  
Air Quality Manager  
Linde Gas North America, LLC

**Attachments**

CC: Elizabeth Keen (TDEC)  
Jeremy Copeland (Wacker Polysilicon North America LLC)  
Justin Fickas (Trinity Consultants)



State of Tennessee  
 Department of Environment and Conservation  
 Division of Air Pollution Control  
 William R. Snodgrass Tennessee Tower  
 312 Rosa L. Parks Avenue, 15<sup>th</sup> Floor  
 Nashville, TN 37243  
 Telephone: (615) 532-0554



APC 100

2813

### NON-TITLE V PERMIT APPLICATION FACILITY IDENTIFICATION

| Please type or print and submit in duplicate for each emission source. Attach appropriate source description forms.              |                          |   |   |                    |
|--|--------------------------|---|---|--------------------|
| SITE INFORMATION   |                          |   |   |                    |
| 1. Organization's legal name<br>Linde Gas North America, LLC   |                          | For<br>APC<br>use<br>only                   | APC Company point no.<br>06-0284                |                    |
| 2. Site name (if different from legal name)  |                          |   | APC Log Permit no.<br>9148 / 965288P            |                    |
| 3. Site address (St./Rd./Hwy.)<br>553 McBryant Road NW   |                          | County name<br>Bradley                      |   |                    |
| City or distance to nearest town<br>Charleston   |                          | Zip code<br>37310                           | 4. NAICS or SIC code<br><del>3339</del> 2813 *  |                    |
| 5. Site location<br>(in lat. /long.)   | Latitude<br>35.29236 deg | Longitude<br>-84.79831 deg                  |   |                    |
| CONTACT INFORMATION (RESPONSIBLE PERSON)   |                          |   |   |                    |
| 6. Responsible person/Authorized contact<br>Brian Forsyth  |                          | Phone number with area code<br>256-306-0305 |   |                    |
| Mailing address (St./Rd./Hwy.)<br>900 Linde Lane, Highway 20   |                          | Fax number with area code<br>256-306-0344   |   |                    |
| City<br>Decatur  | State<br>AL              | Zip code<br>35603                           | Email address<br>Brian.Forsyth@us.linde-gas.com |                    |
| CONTACT INFORMATION (TECHNICAL)  |                          |   |   |                    |
| 7. Principal technical contact<br>Robin Callaghan  |                          | Phone number with area code<br>908-771-1616 |   |                    |
| Mailing address (St./Rd./Hwy.)<br>575 Mountain Avenue  |                          | Fax number with area code<br>908-771-1203   |   |                    |
| City<br>Murray Hill  | State<br>NJ              | Zip code<br>07974                           | Email address<br>robin.callaghan@linde.com      |                    |
| CONTACT INFORMATION (BILLING)  |                          |   |   |                    |
| 8. Billing contact<br>Brian Forsyth  |                          | Phone number with area code<br>256-306-0305 |   |                    |
| Mailing address (St./Rd./Hwy.)<br>900 Linde Lane   |                          | Fax number with area code<br>256-306-0344   |   |                    |
| City<br>Decatur  | State<br>AL              | Zip code<br>35603                           | Email address<br>robin.callaghan@linde.com      |                    |
| EMISSION SOURCE INFORMATION  |                          |   |   |                    |
| 9. Emission source no. (number which uniquely identifies this source)<br>111101  |                          |   |   |                    |
| 10. Brief description of emission source<br>First hydrogen reformer - Produces hydrogen gas through the reforming of natural gas |                          |   |   |                    |
| 11. Normal operation:  | Hours/Day<br>24          | Days/Week<br>7                              | Weeks/Year<br>52                                | Days/Year<br>365   |
| 12. Percent annual throughput  | Dec. - Feb.<br>25        | March - May<br>25                           | June - August<br>25                             | Sept. - Nov.<br>25 |

(Over)

\* As per E-mail from Robin Callaghan dated 10/26/2013

MZ



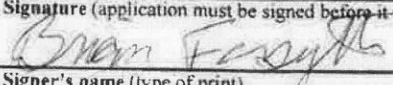
| TYPE OF PERMIT REQUESTED  |   |                                       |   |                                  |
|---|---|---------------------------------------|---|----------------------------------|
| 13. Operating permit<br>( )   | Date construction started               | Date completed                        | Last permit no.                             | Emission source reference number |
| Construction permit<br>(X)  | Last permit no.<br>965288               |                                       |   | 06-0284<br>111101                |
| If you choose Construction permit, then choose either New Construction, Modification, or Location transfer  |   |                                       |   |                                  |
| New Construction<br>(X)   | Starting date<br>March 2015             | Completion date<br>November 2015      |   |                                  |
| Modification<br>( )   | Date modification started or will start | Date completed or will complete       |   |                                  |
| Location transfer<br>( )  | Transfer date                           | Address of last location              |   |                                  |
| 14. Describe changes that have been made to this equipment or operation since the last construction or operating permit application:  |   |                                       |   |                                  |
| N/A   |   |                                       |   |                                  |
| 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 and any attached application(s) 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 (application must be signed before it will be processed)  |   |                                       | Date  |                                  |
|    |   |                                       | Sept 27 2013                                |                                  |
| Signer's name (type of print)<br>Brian Forsyth  |   | Title<br>Alabama HYCO Cluster Manager | Phone number with area code<br>256-306-0305 |                                  |

Table of Pollution Reduction Device or Method Codes

Note: For cyclones, settling chambers, wet scrubbers, and electrostatic precipitators; the efficiency ranges correspond to the following percentages:  
 High: 95-99+%, Medium: 80-95% And Low: Less than 80%.

If the system has several pieces of connected control equipment, indicate the sequence. For example: 008\*010.97%  
 If none of the below codes fit, use 999 as a code for other and specify in the comments.

|   |     |   |     |
|---|-----|---|-----|
| No Equipment.....   | 000 | Limestone Injection - Dry.....  | 041 |
| Activated Carbon Adsorption.....                                | 048 | Limestone Injection - Wet.....  | 042 |
| Afterburner - Direct Flame.....                                 | 021 | Liquid Filtration System.....   | 049 |
| Afterburner - Direct Flame with Heat Exchanger.....             | 022 | Mist Eliminator - High Velocity.....  | 014 |
| Afterburner - Catalytic.....                                    | 019 | Mist Eliminator - Low Velocity.....   | 015 |
| Afterburner - Catalytic with Heat Exchanger.....                | 020 | Process Change.....   | 046 |
| Alkalized Alumina.....  | 040 | Process Enclosed.....   | 054 |
| Catalytic Oxidation - Flue Gas Desulfurization.....             | 039 | Process Gas Recovery.....   | 060 |
| Cyclone - High Efficiency.....                                  | 007 | Settling Chamber - High Efficiency.....   | 004 |
| Cyclone - Medium Efficiency.....                                | 008 | Settling Chamber - Medium Efficiency.....                                       | 005 |
| Cyclone - Low Efficiency.....                                   | 009 | Settling Chamber - Low Efficiency.....  | 006 |
| Dust Suppression by Chemical Stabilizers or Wetting Agents..... | 062 | Spray Tower (Gaseous Control Only).....   | 052 |
| Electrostatic Precipitator - High Efficiency.....               | 010 | Sulfuric Acid Plant - Contact Process.....                                      | 043 |
| Electrostatic Precipitator - Medium Efficiency.....             | 011 | Sulfuric Acid Plant - Double Contact Process.....                               | 044 |
| Electrostatic Precipitator - Low Efficiency.....                | 012 | Sulfur Plant.....   | 045 |
| Fabric Filter - High Temperature.....                           | 016 | Vapor Recovery System (Including Condensers, Hooding and Other Enclosures)..... | 047 |
| Fabric Filter - Medium Temperature.....                         | 017 | Venturi Scrubber (Gaseous Control Only).....                                    | 053 |
| Fabric Filter - Low Temperature.....                            | 018 | Wet Scrubber - High Efficiency.....   | 001 |
| Fabric Filter - Metal Screens (Cotton Gins).....                | 059 | Wet Scrubber - Medium Efficiency.....   | 002 |
| Flaring.....  | 023 | Wet Scrubber - Low Efficiency.....  | 003 |
| Gas Adsorption Column - Packed.....                             | 050 | Wet Suppression by Water Sprays.....  | 061 |
| Gas Adsorption Column - Tray Type.....                          | 051 |   |     |
| Gas Scrubber (General: Not Classified).....                     | 013 |   |     |

Table of Emission Estimation Method Codes

|   |   |
|---|---|
| Not application / Emissions are known to be zero.....   | 0 |
| Emissions based on source testing.....  | 1 |
| Emissions based on material balance using engineering expertise and knowledge of process.....                                   | 2 |
| Emissions calculated using emission factors from EPA publications No. AP-42 Compilation of Air Pollution Emissions Factors..... | 3 |
| Judgment.....   | 4 |
| Emissions calculated using a special emission factor different from that in AP-42.....  | 5 |
| Other (Specify in comments).....  | 6 |



State of Tennessee  
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APC 100

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| 1. Organization's legal name<br>Linde Gas North America, LLC  |                          | For<br>APC<br>use<br>only                   | APC Company point no.<br>06-0284                |                    |
| 2. Site name (if different from legal name)   |                          |   | APC Log/Permit no.<br>9148 / 965288             |                    |
| 3. Site address (St./Rd./Hwy.)<br>553 McBryant Road NW  |                          | County name<br>Bradley                      |   |                    |
| City or distance to nearest town<br>Charleston  |                          | Zip code<br>37310                           | 4. NAICS or SIC code<br>3339                    |                    |
| 5. Site location<br>(in lat. /long.)  | Latitude<br>35.29231 deg | Longitude<br>-84.79816 deg                  |   |                    |
| <b>CONTACT INFORMATION (RESPONSIBLE PERSON)</b>   |                          |   |   |                    |
| 6. Responsible person/Authorized contact<br>Brian Forsyth   |                          | Phone number with area code<br>256-306-0305 |   |                    |
| Mailing address (St./Rd./Hwy.)<br>900 Linde Lane, Highway 20  |                          | Fax number with area code<br>256-306-0344   |   |                    |
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| <b>EMISSION SOURCE INFORMATION</b>  |                          |   |   |                    |
| 9. Emission source no. (number which uniquely identifies this source)<br>121101   |                          |   |   |                    |
| 10. Brief description of emission source<br>Second hydrogen reformer - Produces hydrogen gas through the reforming of natural gas |                          |   |   |                    |
| 11. Normal operation:   | Hours/Day<br>24          | Days/Week<br>7                              | Weeks/Year<br>52                                | Days/Year<br>365   |
| 12. Percent annual throughput   | Dec. - Feb.<br>25        | March - May<br>25                           | June - August<br>25                             | Sept. - Nov.<br>25 |



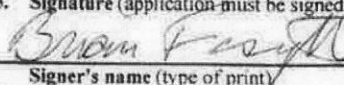
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| Construction permit<br>( X )  | Last permit no.                         | Emission source reference number<br>121101 |   |                                  |
| If you choose Construction permit, then choose either New Construction, Modification, or Location transfer  |   |  |   |                                  |
| New Construction<br>( X )   | Starting date<br>March 2015             | Completion date<br>November 2015           |   |                                  |
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| Judgment.....   | 4 |
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| Other (Specify in comments).....  | 6 |



From: (908) 771-1616  
Robin Callaghan

Origin ID: CDWA



575 Mountain Ave

Murray Hill, NJ 07974



J13201306280326

SHIP TO: (615) 532-9200

BILL SENDER

**Mr. Mashallah Yousefzadeh**  
**Tennessee Department of Environment**  
**312 ROSA L PARKS AVE**

**NASHVILLE, TN 37243**

Ship Date: 27SEP13  
ActWgt: 1.0 LB  
CAD: 103015605/INET3430

Delivery Address Bar Code



Ref # Wacker Plant Permitting  
Invoice #  
PO #  
Dept #

**MON - 30 SEP AA**  
**STANDARD OVERNIGHT**

TRK# 7967 8790 5996

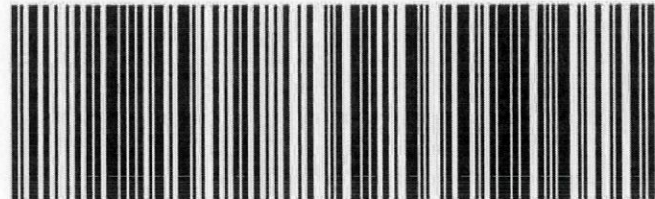
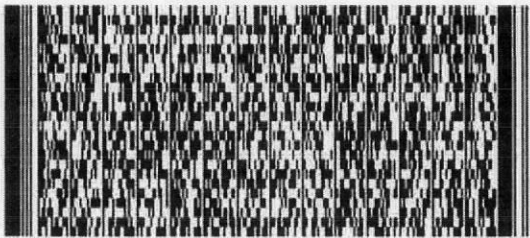
0201

**SB RNCA**

**37243**

TN-US

**BNA**



51AG1/9256/1A9E

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