Title V Statement of Basis

Company: Carbide Industries, LLC
Plant Location: 4400 Bells Lane Louisville, KY 40211
Date Application Received: 26 March 2013 Application Number: 54958
Date of Draft Permit: 20 December 2013
District Engineer: Rick Williams Permit No: 140-97-TV (R2)
Plant ID: 0001 SIC Code: 2869 NAICS: 325188 AFS: 00001

Introduction:
This permit will be issued pursuant to: (1) APCD Regulations 2.05 and 2.16, (2) Title 40 of the Code of Federal Regulations Part 70, and (3) Title V of the Clean Air Act Amendments of 1990. Its purpose is to identify and consolidate existing District and Federal air requirements and to provide methods of determining continued compliance with these requirements.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO₂), carbon monoxide (CO), 1 hr and 8 hr ozone (O₃), and particulate matter less than 10 microns (PM₁₀); and is a non-attainment area for particulate matter less than 2.5 microns (PM₂.₅). Part of the county is non-attainment for sulfur dioxide (SO₂). This facility is in part of the county designated attainment for SO₂.

Application Type/Permit Activity:
[ ] Initial Issuance
[ ] Permit Revision
   [ ] Administrative
   [ ] Minor
   [ ] Significant
[X] Permit Renewal
[ ] Construction

Compliance Summary:
[X] Compliance certification signed  [ ] Compliance schedule included
[ ] Source is out of compliance  [X] Source is operating in compliance
I. **Source Information**

1. **Product/Process Description:** The company manufactures calcium carbide in a semi-closed electric submerged-arc furnace.

2. **Project Description:** The company receives coke and lime by both rail-car and truck. These raw materials are processed and reacted in a 50 MW electric-arc furnace to produce calcium carbide. The calcium carbide is then processed and packaged for sale. Waste material is reacted on-site to produce acetylene gas which is burned in a flare. The calcium hydroxide residue from acetylene production is stored in large open pits on the site.

3. **Site Determination:** There are no other facilities that are contiguous or adjacent and under common control.

4. **Emission Unit Summary:**

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Equipment Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>U1 - Lime Handling</td>
<td>Receives lime shipments and conveys to storage.</td>
</tr>
<tr>
<td>System</td>
<td></td>
</tr>
<tr>
<td>U2 – Coke Handling</td>
<td>Receives coke shipments and conveys to storage</td>
</tr>
<tr>
<td>System</td>
<td></td>
</tr>
<tr>
<td>U3 – Charge Mix and</td>
<td>Transfers lime and coke from storage, mixes these components in desired proportions,</td>
</tr>
<tr>
<td>Furnace</td>
<td>and transfers the mix to the furnace. Removes product from furnace.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>U4 – Primary Crushing</td>
<td>Receives product from furnace operation. Begins crushing of raw calcium carbide, sorts</td>
</tr>
<tr>
<td></td>
<td>crushed product, and routes it for further processing.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>U5 – Pack and Screen</td>
<td>Provides additional crushing and sorting of carbide and routes to appropriate packaging</td>
</tr>
<tr>
<td></td>
<td>stations.</td>
</tr>
<tr>
<td>U6 – Back End</td>
<td>Provides final processing for certain products and handles waste materials collected</td>
</tr>
<tr>
<td></td>
<td>from baghouses.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>U7 – Desulphurization</td>
<td>Blends calcium carbide with other materials to produce the desulphurization product</td>
</tr>
<tr>
<td>Operations</td>
<td>and packages this product.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>U8 – Wet Generator</td>
<td>Completes processing of waste material collected in U6 by reacting this waste</td>
</tr>
<tr>
<td></td>
<td>with water to produce acetylene gas.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>U9 – Dry Generator</td>
<td>Historic equipment retained by the plant but no longer in service.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>U10 – Acetylene</td>
<td>Historic equipment retained by the plant but no longer in service.</td>
</tr>
<tr>
<td>Compression and</td>
<td></td>
</tr>
<tr>
<td>Purification</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>U11 – Fuel Storage</td>
<td>Gasoline storage for in-plant vehicles.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>U12 – Gas-Fired</td>
<td>Natural gas-fired boiler for building heat.</td>
</tr>
<tr>
<td>Boiler</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>U13 – Storm Water</td>
<td>Facility for reducing the pH of storm-water runoff before release to storm water</td>
</tr>
<tr>
<td>Neutralization</td>
<td>sewers.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>U14 – Tote Reconditioning</td>
<td>Facility for repainting of steel containers used to transport product.</td>
</tr>
</tbody>
</table>
### 5. Permit Revisions

<table>
<thead>
<tr>
<th>Revision</th>
<th>Issue Date</th>
<th>Public Notice Date</th>
<th>Type</th>
<th>Page #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>09/28/2001</td>
<td>12/24/2000</td>
<td>Initial</td>
<td>Entire Permit</td>
<td>Entire Permit</td>
</tr>
<tr>
<td>Rev. 1</td>
<td>02/09/2003</td>
<td>Admin.</td>
<td>Cover page</td>
<td>Entire Permit</td>
<td>Changed name of company, owner, and responsible official</td>
</tr>
<tr>
<td>Rev. 2</td>
<td>2/5/2014</td>
<td>12/20/2013</td>
<td>Renewal</td>
<td>Entire permit</td>
<td>Title V Renewal application (54958), incorporating:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Construction permit: Pneumatic transfer system (993)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Permit #101-05-C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Construction permit: Five new bin vent filters (994)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Permit #102-05-C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Construction permit: Coke storage bins, screen, and weigh belt (995)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Permit #103-05-C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Construction permit: Pneumatic transfer system (996)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Permit #104-05-C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Construction permit: Fines storage bin and truck loading station (997)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Permit #105-05-C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Construction permit: Acetylene flare (1004)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Permit #101-07-C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- RO change (53)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- 7/20/2007</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- RO change (52)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- 12/3/2008</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Construction permit: Electric Arc Furnace replacement (29233)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Permit #32752-11-C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Revised Title V renewal application (54958)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- 3/26/2013</td>
</tr>
</tbody>
</table>
6. **Fugitive Sources:**


Additional fugitive sources of PM subject to APCD regulation 1.14.

7. **Plantwide Emission Summary:**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Actual Emissions (tpy) 2012 Data</th>
<th>Pollutant that triggered Major Source Status(based on PTE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC</td>
<td>325.0</td>
<td>Yes</td>
</tr>
<tr>
<td>CO</td>
<td>395.4</td>
<td>Yes</td>
</tr>
<tr>
<td>NO\textsubscript{x}</td>
<td>5.4</td>
<td>No</td>
</tr>
<tr>
<td>SO\textsubscript{2}</td>
<td>9.26</td>
<td>No</td>
</tr>
<tr>
<td>PM</td>
<td>150.9</td>
<td>Yes</td>
</tr>
<tr>
<td>PM\textsubscript{10}</td>
<td>78.4</td>
<td>No</td>
</tr>
<tr>
<td>PM\textsubscript{2.5}</td>
<td>25.3</td>
<td>No</td>
</tr>
<tr>
<td>GHG</td>
<td>N/A</td>
<td>No</td>
</tr>
<tr>
<td>Single HAP&gt; 1 tpy</td>
<td>All individual HAPs &lt; 1 tpy</td>
<td>No</td>
</tr>
<tr>
<td>Total HAPs</td>
<td>0.44</td>
<td>No</td>
</tr>
</tbody>
</table>

8. **Applicable Requirements:**

- [ ] PSD
- [X] NSPS
- [X] SIP
- [X] MACT

- [ ] NSR
- [ ] NESHAPS
- [X] District-Origin
- [ ] Other

9. **MACT Requirements:**

a. Exiting a control device, PM emissions shall be less than 0.51 lb/MW-hr and opacity shall be less than 15%.

b. Carbon monoxide shall not be discharged into the atmosphere in excess of 20% by dry volume.

10. **Referenced Federal Regulations in Permit:**

40 CFR 60, Subpart Z - Standards of Performance for Ferroalloy Production Facilities;

II. Regulatory Analysis

1. Acid Rain Requirements:
The source is not subject to the Acid Rain Program.

2. Stratospheric Ozone Protection Requirements:
This source does not manufacture, sell, or distribute any of the chemicals listed in title VI of the CAAA. Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. The source’s use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

3. Prevention of Accidental Releases 112(r):
The source does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, Chemical Accident Prevention Provisions, in a quantity in excess of the corresponding specified threshold amount. If the source becomes subject to 40 CFR 68 and Regulation 5.15, the source shall comply with the Risk Management Program and Regulation 5.15 and submit a Risk Management Plan to:

   RMP Reporting Center
   P.O. Box 3346
   Merrifield, VA 22116-3346

4. Basis of Regulation Applicability

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Title</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.14</td>
<td>Control of Fugitive Particulate Emissions</td>
<td>SIP</td>
</tr>
<tr>
<td>2.03</td>
<td>Permit Requirements – Non-Title V Construction and Operating Permits and Demolition/Renovation Permits</td>
<td>SIP</td>
</tr>
<tr>
<td>2.05</td>
<td>Prevention of Significant Deterioration of Air Quality</td>
<td>SIP</td>
</tr>
<tr>
<td>2.16</td>
<td>Title V Operating Permits</td>
<td>SIP</td>
</tr>
<tr>
<td>5.02</td>
<td>General Provisions (STAR)</td>
<td>Local</td>
</tr>
<tr>
<td>5.21</td>
<td>Environmental Acceptability for Toxic Air Contaminants</td>
<td>Local</td>
</tr>
<tr>
<td>5.23</td>
<td>Categories of Toxic Air Contaminants</td>
<td>Local</td>
</tr>
<tr>
<td>6.09</td>
<td>Standards of Performance for Existing Process Operations</td>
<td>SIP</td>
</tr>
<tr>
<td>6.13</td>
<td>Standards of Performance for Existing Storage Vessels for Volatile Organic Compounds</td>
<td>SIP</td>
</tr>
<tr>
<td></td>
<td>Standards of Performance for Gasoline Transfer to Existing Service Station Storage Tanks (Stage 1 Vapor Recovery)</td>
<td>SIP</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------------------------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>6.15</td>
<td>Standards of Performance for Gasoline Transfer to Motor Vehicles (Stage II Vapor Recovery and Control Systems)</td>
<td>SIP</td>
</tr>
<tr>
<td>6.40</td>
<td>Volatile Organic Compound Emission Reduction Requirements</td>
<td>SIP</td>
</tr>
<tr>
<td>6.43</td>
<td>Standards of Performance for New Indirect Heat Exchangers</td>
<td>SIP</td>
</tr>
<tr>
<td>7.06</td>
<td>Standards of Performance for New Process Operations</td>
<td>SIP</td>
</tr>
<tr>
<td>7.08</td>
<td>Standards of Performance for New Process Gas Streams</td>
<td>SIP</td>
</tr>
<tr>
<td>7.59</td>
<td>Standards of Performance for New Miscellaneous Metal Parts and Products Surface Coating Operations</td>
<td>SIP</td>
</tr>
<tr>
<td>40 CFR 60, Subpart Z</td>
<td>Standards of Performance for Ferroalloy Production Facilities</td>
<td>Federal</td>
</tr>
<tr>
<td>40 CRF 63, Subpart YYYY</td>
<td>National Emission Standards for Hazardous Air Pollutants for Area Sources: Ferroalloy Production Facilities</td>
<td>Federal</td>
</tr>
</tbody>
</table>

### a. PSD Avoidance – NSR Pollutants

A new electric-arc furnace was installed, and became operational in March 2013. At that time certain production limits were established to avoid PSD regulations.

i. **Carbon Monoxide**

The uncontrolled potential-to-emit for carbon monoxide for the new furnace exceeds the significance level of 100 tons increase over the maximum emission level of the last ten years. Carbide Industries has elected to accept a limit on production to insure that net emission of carbon monoxide does not increase above the significance level. Emission of carbon monoxide is directly related to calcium carbide production and CO destruction efficiency at the flare and coke dryer burner.

Based on the chemical reaction by which calcium carbide is produced, CO production is 875 pounds per ton of carbide. However, some of this CO is destroyed before it leaves the oven and some additional CO is produced through reactions involving impurities in the raw materials. The company has demonstrated that the production rate is 848 lb$_{CO}$/ton$_{carbide}$. This yields a maximum production rate of 126,887 tons of carbide per year to avoid PSD regulations. Should the company provide adequate documentation to demonstrate a different destruction efficiency or other CO emission factor, this production limit will be adjusted.
ii. Sulfur Dioxide
Two issues come into play with sulfur dioxide. First, the emission factor for $\text{SO}_2$ is a function of the sulfur content of the coke which is a raw material for calcium carbide production. This is limited in the previous permit to less than 3%, but in practice the company limits sulfur to about 1% (as borne out by historical records) to maintain the quality of their product. The second consideration is the efficiency of the scrubber in removing $\text{SO}_2$ from the exhaust stream. This scrubber is in place principally for control of particulates. However, much of the particulate in the gas stream is CaO, which remains suspended in the process water and reacts with the $\text{SO}_2$ to remove it from the exhaust stream. This removal efficiency was measured as part of the startup testing of the furnace and control equipment, in December 2012, and found to be 76.5%. Calculations show that with this measured control efficiency, with sulfur content of the coke limited to 2.0%, and production limited to the same carbide mass as the CO limit (126,887 tons of carbide per year), the $\text{SO}_2$ significant impact level for PSD action cannot be exceeded. This limit is incorporated in the permit.

iii. Particulate Matter
The uncontrolled potential-to-emit for PM, $\text{PM}_{10}$, and $\text{PM}_{2.5}$ for the new furnace all exceed the significance level over the maximum emission level of the last ten years. However, using the production limit established based on CO emissions insures that the significance level for all classes of particulates will not be exceeded.

b. PSD Avoidance – GHG Pollutants
The furnace unit at emits no regulated greenhouse gases directly. The carbon monoxide that is emitted is combusted at the flare, which is a control device for the furnace, and the coke dryer, which is an associated process in the same emission unit. The combustion of carbon monoxide produced carbon dioxide, which is regulated as a greenhouse gas. Potential annual $\text{CO}_2$ emissions of 110,191 tons classify this source as major for greenhouse gas emissions. The GHG emission increase is 35,229 tons over the baseline, which is less than the threshold of 75,000 tons therefore this project is not subject to regulation for PSD.

c. STAR
The District has reviewed potential TAC emissions from the furnace process, acetylene generation, and painting and determined that all such emissions are de minimus.
d. **Plantwide Limits**

i. **Standards**
   Regulation 6.43 establishes VOC emission limits for specific plants to effect a 15% county-wide VOC emission reduction from a 1990 baseline, as required by section 182(b)(1) of the Clean Air Act. Section 9 of the regulation sets a limit on VOC emissions of 6400 pounds per day from the facility.

ii. **Monitoring and Recordkeeping**
   Section 4 of regulation 6.43 requires daily record-keeping of all VOC emissions to demonstrate compliance with the regulatory limits.

iii. **Reporting**
   Regulation 2.16, section 4.1.9.3 establishes the obligation for regular reporting of all parameters and records APCD deems necessary to assure compliance with existing permit conditions.

e. **Emission Unit U1 – Lime Handling System**

i. **Standards**
   (1) **Particulate Matter**
      (a) Fugitive emission standards are set forth in regulation 1.14
      (b) Regulation 7.08 sets forth PM emission limits based on equipment throughput. This regulation is applicable to all equipment constructed after 1 September 1976. The applicant identified all equipment in this emission unit was installed after this date.

   (2) **Opacity**
      Regulation 7.08 establishes opacity limits for all PM emissions and fugitive emissions for equipment constructed after 1 September 1976. The applicant identified all equipment in this emission unit was installed after this date.

ii. **Monitoring and Recordkeeping**
   Regulation 2.16, section 4.1.9 establishes authority for APCD to require monitoring and recordkeeping sufficient to insure compliance with established operating limits and standards.

iii. **Reporting**
   Regulation 2.16, section 4.1.9.3 establishes the obligation for regular reporting of all parameters and records APCD deems necessary to assure compliance with existing permit conditions.
f. Emission Unit U2 – Coke Handling System

i. Standards

(1) Particulate Matter

(a) Fugitive emission standards and required control measures are set forth in regulation 1.14

(b) Regulation 6.09 sets forth PM emission limits based on equipment throughput for all equipment constructed before 1 September 1976. The applicant stated that equipment identified as E009 – E015, E023, and E024 in this emission unit was installed prior to this date.

(c) Regulation 7.08 sets forth PM emission limits based on equipment throughput for all equipment constructed after 1 September 1976. The applicant stated that equipment identified as E016 – E022 in this emission unit was installed after this date.

(2) Opacity

Regulation 7.08 establishes opacity limits for all PM emissions and fugitive emissions for equipment constructed after 1 September 1976. The applicant identified all equipment in this emission unit was installed after this date.

(3) Nitrogen Oxides

Regulation 6.09 establishes NO\textsubscript{x} emission limits for process operations in existence before 1 September 1976. The coke dryer (E012) meets the definition of “process operation” set forth in this regulation.

(4) Sulfur Dioxide

Regulation 6.10, section 4 establishes SO\textsubscript{2} emission limits for process gas streams for processes in existence before 19 April 1972. The coke dryer (E012) receives the exhaust stream from the electric-arc furnace, thus meeting this definition.

(5) Carbon Monoxide

Regulation 6.10, section 5 establishes CO emission limits for process gas streams for processes in existence before 19 April 1972. The coke dryer (E012) receives the exhaust stream from the electric-arc furnace, thus meeting this definition.

(6) Hydrogen Sulfide

Regulation 6.10, section 3 establishes H\textsubscript{2}S emission limits for process gas streams for processes in existence before 19 April 1972. The coke dryer (E012) receives the exhaust stream from the electric-arc furnace, thus meeting this definition.
ii. Monitoring and Recordkeeping
   Regulation 2.16, section 4.1.9 establishes authority for APCD to require monitoring and recordkeeping sufficient to insure compliance with established operating limits and standards.

iii. Reporting
   Regulation 2.16, section 4.1.9.3 establishes the obligation for regular reporting of all parameters and records APCD deems necessary to assure compliance with existing permit conditions.

g. **Emission Unit U3 – Charge Mix and Furnace**

   The electric-arc furnace (E031) and certain related equipment (E027-E030, E032) were replaced in 2012. In addition to emission limits established by local and federal regulations, monthly and annual production limits and raw material quality requirements were established to insure that a PSD permit was not mandated by APCD regulation 2.05.

i. Standards
   (1) **Particulate Matter**
      (a) Regulation 6.09 sets forth PM emission limits based on equipment throughput for all equipment constructed before 1 September 1976. The applicant stated that equipment identified as E027 – E030 in this emission unit was installed prior to this date.
      (b) Regulation 7.08 sets forth PM emission limits based on equipment throughput for all equipment constructed after 1 September 1976. All components of this emission unit not identified in g.i.(1).(a) are part of the March 2012 reconstruction and therefore subject to this regulation.
      (c) The uncontrolled emission rates of the electric arc furnace (E031) and furnace tap holes (E032) were determined to be greater than the allowable PM emission rate allowed for this equipment by regulation 7.08. Therefore the requirement that the associated control equipment be in continuous operation was included, to ensure that the allowable emission rate would not be exceeded.

   (2) **Opacity**
      (a) Regulation 6.09 establishes opacity limits for all PM emissions and fugitive emissions for equipment constructed before 1 September 1976. The applicant identified the equipment in this emission unit that was installed prior to this date.
(b) Regulation 7.08 establishes opacity limits for all PM emissions and fugitive emissions for equipment constructed after 1 September 1976. The applicant identified the equipment in this emission unit that was installed after this date.

(3) Sulfur Dioxide
(a) Regulation 7.09 establishes SO$_2$ limits for process gas streams that contain this gas. SO$_2$ is present in the arc furnace gas stream.
(b) To avoid regulation 2.05 PSD restrictions, a maximum sulfur content for the coke used in the process was established along with annual carbide production limits to ensure that SO$_2$ emissions would not increase above the established significant impact level.

(4) Carbon Monoxide
(a) Regulation 7.09 establishes CO limits for process gas streams that contain this gas. CO is present in the arc furnace gas stream.
(b) To ensure CO emissions do not increase above the significant impact level, a maximum calcium carbide production limit was established. Carbon monoxide production is directly related to carbide production, insuring that the limit cannot be exceeded, so long as the additional requirement of CO incineration is met. The requirement for burning this exhaust gas is further established in 40 CFR 60, subpart Z.

(5) Hazardous Air Pollutants
Federal regulation 40 CFR 63, subpart YYYYYY sets forth control-device characteristics to ensure that HAP emissions are limited.

(6) Toxic Air Contaminants
Local regulations limit emission of toxic materials. Prior modeling by the applicant demonstrated that all TAC emissions met the definition of _de minimis_ set forth in regulation 5.21.

**Monitoring and Recordkeeping**
Regulation 2.16, section 4.1.9 establishes authority for APCD to require monitoring and recordkeeping sufficient to insure compliance with established operating limits and standards.

**Reporting**
Regulation 2.16, section 4.1.9.3 establishes the obligation for regular reporting of all parameters and records APCD deems
necessary to assure compliance with existing permit conditions. Additional reporting requirements are set forth in 40 CFR 60, subpart Z and 40 CFR 63, subpart YYYYYY.

**h. Emission Unit U4 – Primary Crushing**

i. **Standards**

   (1) **Particulate Matter**
   Regulation 6.09 sets forth PM emission limits based on equipment throughput for all equipment constructed before 1 September 1976. The applicant stated that all of the equipment in this emission unit to which PM regulations apply was installed prior to this date.

   (2) **Opacity**
   Regulation 6.09 establishes opacity limits for all PM emissions and fugitive emissions for equipment constructed before 1 September 1976. The applicant identified the equipment in this emission unit that was installed prior to this date.

   (3) **Volatile Organic Compounds**
   Any VOCs generated in the handling of the calcium carbide material are covered under the Plantwide VOC Emission Limits, section d. above.

ii. **Monitoring and Recordkeeping**
Regulation 2.16, section 4.1.9 establishes authority for APCD to require monitoring and recordkeeping sufficient to insure compliance with established operating limits and standards. Regulation 6.43 provides additional requirements for VOC monitoring.

iii. **Reporting**
Regulation 2.16, section 4.1.9.3 establishes the obligation for regular reporting of all parameters and records APCD deems necessary to assure compliance with existing permit conditions.

**i. Emission Unit U5 – Pack and Screen**

i. **Standards**

   (1) **Particulate Matter**
   (a) Fugitive emission standards and required control measures are set forth in regulation 1.14
   (b) Regulation 6.09 sets forth PM emission limits based on equipment throughput for all equipment constructed before 1 September 1976. The applicant stated that all of the equipment in this
emission unit to which PM regulations apply was installed prior to this date.
(2) Opacity

Regulation 6.09 establishes opacity limits for all PM emissions and fugitive emissions for equipment constructed before 1 September 1976. The applicant identified the equipment in this emission unit that was installed before this date.

(3) Volatile Organic Compounds

Any VOCs generated in the handling of the calcium carbide material are covered under the Plantwide VOC Emission Limits, section d. above.

ii. Monitoring and Recordkeeping

Regulation 2.16, section 4.1.9 establishes authority for APCD to require monitoring and recordkeeping sufficient to insure compliance with established operating limits and standards. Regulation 6.43 provides additional requirements for VOC monitoring.

iii. Reporting

Regulation 2.16, section 4.1.9.3 establishes the obligation for regular reporting of all parameters and records APCD deems necessary to assure compliance with existing permit conditions.

j. Emission Unit U6 – Back End

i. Standards

(1) Particulate Matter

   (a) Fugitive emission standards and required control measures are set forth in regulation 1.14
   (b) Regulation 6.09 sets forth PM emission limits based on equipment throughput for all equipment constructed before 1 September 1976. The applicant stated that all of the equipment in this emission unit to which PM regulations apply was installed prior to this date.

(2) Opacity

Regulation 6.09 establishes opacity limits for all PM emissions and fugitive emissions for equipment constructed before 1 September 1976. The applicant identified the equipment in this emission unit that was installed before this date.

(3) Volatile Organic Compounds

Any VOCs generated in the handling of the calcium carbide material are covered under the Plantwide VOC Emission Limits, section d. above.
ii. Monitoring and Recordkeeping
Regulation 2.16, section 4.1.9 establishes authority for APCD to require monitoring and recordkeeping sufficient to insure compliance with established operating limits and standards. Regulation 6.43 provides additional requirements for VOC monitoring.

iii. Reporting
Regulation 2.16, section 4.1.9.3 establishes the obligation for regular reporting of all parameters and records APCD deems necessary to assure compliance with existing permit conditions.

k. Emission Unit U7 – Desulfurization Unit

i. Standards
(1) Particulate Matter
   (a) Fugitive emission standards and required control measures are set forth in regulation 1.14
   (b) Regulation 7.08 sets forth PM emission limits based on equipment throughput for all equipment constructed after 1 September 1976. The applicant stated that all of the equipment in this emission unit to which PM regulations apply was installed after this date.

(2) Opacity
   Regulation 7.08 establishes opacity limits for all PM emissions and fugitive emissions for equipment constructed after 1 September 1976. The applicant identified the equipment in this emission unit that was installed after this date.

(3) Volatile Organic Compounds
   Any VOCs generated in the handling of the calcium carbide material are covered under the Plantwide VOC Emission Limits, section d. above.

ii. Monitoring and Recordkeeping
Regulation 2.16, section 4.1.9 establishes authority for APCD to require monitoring and recordkeeping sufficient to insure compliance with established operating limits and standards. Regulation 6.43 provides additional requirements for VOC monitoring.

iii. Reporting
Regulation 2.16, section 4.1.9.3 establishes the obligation for regular reporting of all parameters and records APCD deems necessary to assure compliance with existing permit conditions.

l. Emission Unit U8 – Wet Generator
i. Standards
   (1) Particulate Matter  
      (a) Fugitive emission standards and required control  
          measures are set forth in regulation 1.14  
      (b) Regulation 6.09 sets forth PM emission limits based  
          on equipment throughput for all equipment  
          constructed before 1 September 1976. The  
          applicant stated that all of the equipment in this  
          emission unit to which PM regulations apply was  
          installed prior to this date.  
   (2) Opacity  
      Regulation 6.09 establishes opacity limits for all PM  
      emissions and fugitive emissions for equipment constructed  
      before 1 September 1976. The applicant identified the  
      equipment in this emission unit that was installed before this  
      date.  
   (3) Volatile Organic Compounds  
      (a) Any VOCs generated in the handling of the calcium  
          carbide material are covered under the Plantwide  
          VOC Emission Limits, section d. above.  
      (b) The wet generator meets the definition of “process  
          equipment” in 40 CFR 60.481. Therefore the  
          requirements of this regulation with respect to leak  
          detection and monitoring apply to equipment which  
          is part of the wet generator.  
   (4) Toxic Air Contaminants  
      The permittee has submitted modeling results that show that  
      all TAC emissions are de minimis, as defined in APCD  
      Regulation 5.21. No additional action is required if  
      processes and materials do not change.  

ii. Monitoring and Recordkeeping  
   (a) Regulation 2.16, section 4.1.9 establishes authority for  
      APCD to require monitoring and recordkeeping sufficient to  
      insure compliance with established operating limits and  
      standards. Regulation 6.43 provides additional  
      requirements for VOC monitoring.  
   (b) Additional monitoring and recordkeeping for the leak  
      checking activities required under subpart VV is defined in  
      40 CFR 60.482 and 60.486.  
   (c) The permittee has submitted modeling results that show that  
      all TAC emissions are de minimis, as defined in APCD  
      Regulation 5.21. No additional action is required if  
      processes and materials do not change.  

iii. Reporting
(a) Regulation 2.16, section 4.1.9.3 establishes the obligation for regular reporting of all parameters and records APCD deems necessary to assure compliance with existing permit conditions.
(b) Additional reporting requirements are specified in 40 CFR 60.487.
(c) The permittee has submitted modeling results that show that all TAC emissions are *de minimis*, as defined in APCD Regulation 5.21. No additional action is required if processes and materials do not change.

m. **Emission Unit U9 – Dry Generator**

This equipment is still present on the permittee’s property but has been rendered inoperable. This heading is retained for reference.

n. **Emission Unit U10 – Acetylene Compression and Purification**

This equipment is still present on the permittee’s property but has been rendered inoperable. This heading is retained for reference.

o. **Emission Unit U11 – Fuel Storage**

i. **Standards**

   **Volatile Organic Compounds**

   (a) Any VOCs emitted from the gasoline handling equipment are covered under the Plantwide VOC Emission Limits, section d. above.

   (b) The specific equipment required to be included on the gasoline storage tank is defined in APCD regulation 6.13.

   (c) Specific requirements for the transfer of fuel into this storage tank are defined in regulation 6.15.

   (d) There are no applicable standards under regulation 6.40 if the monthly volume of gasoline dispensed is less than 10,000 gallons.

ii. **Monitoring and Recordkeeping**

   Regulation 2.16, section 4.1.9 establishes authority for APCD to require monitoring and recordkeeping sufficient to insure compliance with established operating limits and standards. Regulation 6.43 provides additional requirements for VOC monitoring.
iii. Reporting
Regulation 2.16, section 4.1.9.3 establishes the obligation for regular reporting of all parameters and records APCD deems necessary to assure compliance with existing permit conditions.

p. Emission Unit U12 – Gas-Fired Boiler

i. Standards
(1) Particulate Matter
Regulation 7.06 sets forth PM emission limits for gas-fired boilers put into operation after 9 April 1972, based on their actual heat input.

(2) Opacity
Regulation 7.06 sets forth opacity limits for gas-fired boilers put into operation after 9 April 1972, based on their actual heat input.

(3) Sulfur Dioxide
Regulation 7.06 sets forth SO\textsubscript{2} emission limits for gas-fired boilers put into operation after 9 April 1972, based on their actual heat input.

ii. Monitoring and Recordkeeping
Regulation 2.16, section 4.1.9 establishes authority for APCD to require monitoring and recordkeeping sufficient to insure compliance with established operating limits and standards.

q. Emission Unit U13 – Storm Water Neutralization

i. Standards
The permittee has submitted modeling results that show that all TAC emissions are \textit{de minimis}, as defined in APCD Regulation 5.21. No additional action is required if processes and materials do not change.

ii. Monitoring and Recordkeeping

The permittee has submitted modeling results that show that all TAC emissions are \textit{de minimis}, as defined in APCD Regulation 5.21. No additional action is required if processes and materials do not change.
i. Reporting
The permittee has submitted modeling results that show that all TAC emissions are *de minimis*, as defined in APCD Regulation 5.21. No additional action is required if processes and materials do not change.

r. Emission Unit U14 – Tote Reconditioning

i. Standards
(1) Particulate Matter
   (a) Fugitive emission standards are set forth in regulation 1.14
   (b) Regulation 7.08 sets forth PM emission limits based on equipment throughput. This regulation is applicable to all equipment constructed after 1 September 1976. The applicant identified all equipment in this emission unit was installed after this date.

(2) Opacity
   Regulation 7.08 establishes opacity limits for all PM emissions and fugitive emissions for equipment constructed after 1 September 1976. The applicant identified all equipment in this emission unit was installed after this date.

(3) Volatile Organic Compounds
   (a) The VOC content of the coating materials used in this process are regulated buy APCD regulation 7.59.
   (b) Any VOCs emitted in painting operations are also covered under the Plantwide VOC Emission Limits, section d. above.

(4) Toxic Air Contaminants
The permittee has submitted modeling results that show that all TAC emissions are *de minimis*, as defined in APCD Regulation 5.21. No additional action is required if processes and materials do not change.

ii. Monitoring and Recordkeeping
   (a) Regulation 2.16, section 4.1.9 establishes authority for APCD to require monitoring and recordkeeping sufficient to insure compliance with established operating limits and standards. Regulation 6.43 provides additional requirements for VOC monitoring.
   (b) The permittee has submitted modeling results that show that all TAC emissions are *de minimis*, as defined in APCD Regulation 5.21. No additional action is required if processes and materials do not change.
iii. Reporting
(a) Regulation 2.16, section 4.1.9.3 establishes the obligation for regular reporting of all parameters and records APCD deems necessary to assure compliance with existing permit conditions.
(b) The permittee has submitted modeling results that show that all TAC emissions are *de minimis*, as defined in APCD Regulation 5.21. No additional action is required if processes and materials do not change.
III. Other Requirements

1. **Temporary Sources:**
The source did not request to operate any temporary facilities.

2. **Short Term Activities:**
The source did not report any short term activities.

3. **Emissions Trading:**
N/A

4. **Operational Flexibility:**
The source did not request any operational flexibility for the emission point.

5. **Compliance Status:**
The source signed and submitted a Title V compliance certification.

6. **Permit Fee:**
Current permit fees include the application filing fee, which has been paid. Title V emission fees and STAR program fees will be billed annually by APCD. Any other fees set forth in regulation 2.08 will be billed when incurred.

7. **Insignificant Activities:**
Various activities are listed as insignificant activities. These activities are mentioned explicitly in the regulatory paragraphs cited in the IA Table.