<table>
<thead>
<tr>
<th>Unit</th>
<th>Constituent</th>
<th>Stack Test or Emission Factor units</th>
<th>Rated Capacity (MMBtu/hr)</th>
<th>Potential COG Usage (cf/hr)</th>
<th>Potential Natural Gas Usage (mmcf/yr)</th>
<th>Potential Emissions (lb/hr)</th>
<th>Tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>COKE OVEN GAS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiler 1</td>
<td>VOC</td>
<td>0.005 lb/ MMBtu</td>
<td>143.0</td>
<td>291,837</td>
<td>2,556.5</td>
<td>0.715</td>
<td>3.132</td>
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<tr>
<td>Boiler 2</td>
<td>VOC</td>
<td>0.005 lb/ MMBtu</td>
<td>143.0</td>
<td>291,837</td>
<td>2,556.5</td>
<td>0.715</td>
<td>3.132</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.430</td>
<td>6.263</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiler 1</td>
<td>VOC</td>
<td>5.5 lb/mmcf</td>
<td>143.0</td>
<td>143,000</td>
<td>1.252.7</td>
<td>0.787</td>
<td>3.445</td>
</tr>
<tr>
<td>Boiler 2</td>
<td>VOC</td>
<td>5.5 lb/mmcf</td>
<td>143.0</td>
<td>143,000</td>
<td>1.252.7</td>
<td>0.787</td>
<td>3.445</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
<td>286,000</td>
<td>2,505.4</td>
<td>1.573</td>
<td>6.890</td>
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<td><strong>MAXIMUM EMISSIONS</strong></td>
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<td></td>
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</tr>
</tbody>
</table>

Notes:
1. Derivation of Stack Test Result 1999 stack test data for COG
   VOC Stack Test Results = (MW_{propene}/385.1x10^6) x ppm_{VOC} x F-Factor x 20.9/(20.9-O_2)
   MW_{propene} = 44 lb/lb-mole
   ppm_{VOC} = 4.8 ppm, using the highest of the 3 runs
   F-Factor = 7,653 dscf/MMBtu
   O_2 = 2.77 %
   VOC Stack Test Results = 0.005 lb/MMBtu
2. AP-42 emission factor for natural gas contained in AP-42, Section 1.4, Natural Gas Combustion, 7/98
3. Higher heating value of the coke oven gas: 490 Btu/cf, testing data (lowest). Used in derivation of gas usage
4. Higher heating value of the natural gas: 1000 Btu/cf. Used in derivation of gas usage
5. Annual actual emission factor derivation for COG for use in the annual emission statements:
   VOC Stack Test Results = (MW_{propene}/385.1x10^6) x ppm_{VOC} x F-Factor x 20.9/(20.9-O_2)
   MW_{propene} = 44 lb/lb-mole
   ppm_{VOC} = 3.36 ppm, using the average of the 3 runs
   F-Factor = 7,653 dscf/MMBtu
   O_2 = 2.77 %
   VOC Stack Test Results = 0.003 lb/MMBtu
   Higher Heating Value during test = 490 BTU/cf
   Emission factor: 1.47 lb/mmcf
<table>
<thead>
<tr>
<th>Test Year</th>
<th>COG Hourly Fuel Flow (scf/hr) Battery 1B</th>
<th>COG Annual Fuel Flow (mmcf/yr) Battery 1B</th>
<th>COG HHV (BTU/scf) Battery 1B</th>
<th>Calculated MMBtu/hr Battery 1B</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>227,673</td>
<td>1,994</td>
<td>503</td>
<td>114.52</td>
</tr>
<tr>
<td>2001</td>
<td>222,000</td>
<td>1,945</td>
<td>496</td>
<td>110.11</td>
</tr>
<tr>
<td>2000</td>
<td>225,000</td>
<td>1,971</td>
<td>490</td>
<td>110.25</td>
</tr>
<tr>
<td>1999</td>
<td>244,113</td>
<td>2,138</td>
<td>490</td>
<td>119.62</td>
</tr>
<tr>
<td>1998</td>
<td>222,928</td>
<td>2,138</td>
<td>497</td>
<td>110.80</td>
</tr>
<tr>
<td>Maximum</td>
<td>244,113</td>
<td>2,138</td>
<td>503</td>
<td>119.62</td>
</tr>
</tbody>
</table>

MMBtu/hr will be calculated using maximum hourly flow from testing data and HHV of 550 Btu/scf (Title V)
- Battery 1B: 134 MMBtu/hr
- Battery 2: 90 MMBtu/hr
Table 3. Coke Pushing, Fugitive Loss Calculations and Maximum Coal/Coke
Koppers Industries, Inc., Monessen Coke Plant, Monessen, Pennsylvania

NOx
Results from January 2003 Statistical Analysis
Stack Emissions: 14.20 lb/hr
25.50 tpy
Uncontrolled Emissions
 Capture Efficiency: 85 %
 Baghouse Control Efficiency: 0 %, for gaseous pollutants
 Uncontrolled Emissions: 16.71 lb/hr
 30.00 tpy
Fugitive Emissions
 2.51 lb/hr
 4.50 tpy

VOC
Results from January 2003 Statistical Analysis
Stack Emissions: 2.30 lb/hr
4.50 tpy
Uncontrolled Emissions
 Capture Efficiency: 85 %
 Baghouse Control Efficiency: 0 %, for gaseous pollutants
 Uncontrolled Emissions: 2.71 lb/hr
 5.29 lb/hr
Fugitive Emissions
 0.41 lb/hr
 0.79 tpy

Maximum amount of Coal Charged: 541,000 tons/yr, RACT permit
Title V Maximum Coal: 531,072 tons/yr
Title V Maximum Coke: 395,076 tons/yr
Ratio: 1.344227 tons coal/ton coke
Maximum Amount of Coke Produced: 402,462 tons/yr
Table 4. Flaring Data
Koppers Industries, Inc., Monessen Coke Plant, Monessen, Pennsylvania

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Emission Factor</th>
<th>Potential COG Usage</th>
<th>Potential Natural Gas Usage</th>
<th>Potential Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>units</td>
<td>cfm/hr</td>
<td>mmcf/yr</td>
<td>(lb/hr)</td>
</tr>
<tr>
<td><strong>COKE OVEN GAS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOx</td>
<td>37.4 lb/mmcf</td>
<td>833,000</td>
<td>7,270.80</td>
<td>31.154</td>
</tr>
<tr>
<td>VOC</td>
<td>32.64 lb/mmcf</td>
<td></td>
<td></td>
<td>27.189</td>
</tr>
<tr>
<td><strong>NATURAL GAS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOx</td>
<td>100 lb/mmcf</td>
<td></td>
<td>150</td>
<td>0.015</td>
</tr>
<tr>
<td>VOC</td>
<td>5.5 lb/mmcf</td>
<td></td>
<td>1.314</td>
<td>0.001</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
<td>31.169</td>
</tr>
<tr>
<td>NOx</td>
<td></td>
<td></td>
<td></td>
<td>136.030</td>
</tr>
<tr>
<td>VOC</td>
<td></td>
<td></td>
<td></td>
<td>27.190</td>
</tr>
</tbody>
</table>

1. Potential COG Flared
   Existing Flare

2. Potential Natural Gas Usage
   SCFM, Title V
   SCFH
   mmcf/yr
   mmcf/day, Title V

3. NOx emission factor for COG is contained in AP-45, Section 13.5, 9/91, as follows:
   Conversion to an emission factor in units of lb/mmcf:
   HHV of COG = 550 Btu/cf, Title V
   NOx Emission Factor = 0.068 lb/MMBtu

4. VOC emission factor for COG calculated using the following assumptions:
   Mass Fraction of VOC in COG = 0.120
   COG Density = 27,200 lb/mmcf
   Flare Destruction Efficiency = 99%
   VOC Emission Factor = 32.64

5. Natural gas emission factors contained in AP-42, Section 1.4, Natural Gas Combustion, 7/98.
### Table 5. Stack Information

**Koppers Industries, Inc., Monessen Coke Plant, Monessen, Pennsylvania**

**Battery 1B Combustion Stack**

- **Stack Height**: 210 feet, Title V
- **Stack Diameter**: 135 inches, 2002 stack test
- **Location of sampling ports**: 11.25 feet
- **Location of sampling ports**: four 90 degrees opposed sampling ports
- **Test ports located 61 feet downstream nearest disturbance and 100 feet upstream nearest disturbance (2002 test protocol)**

<table>
<thead>
<tr>
<th>Test Year</th>
<th>Exhaust Flow (scfm)</th>
<th>Exhaust Temp. (F)</th>
<th>Moisture (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>35,000</td>
<td>583</td>
<td>18</td>
</tr>
<tr>
<td>2001</td>
<td>37,000</td>
<td>576</td>
<td>17</td>
</tr>
<tr>
<td>2000</td>
<td>34,000</td>
<td>584</td>
<td>16</td>
</tr>
<tr>
<td>1999</td>
<td>33,000</td>
<td>574</td>
<td>16</td>
</tr>
<tr>
<td>1998</td>
<td>43,000</td>
<td>594</td>
<td>17</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>36,400</strong></td>
<td><strong>582</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

**Battery 2 Combustion Stack**

- **Stack Height**: 235 feet, Title V
- **Stack Diameter**: 112 inches, 2002 stack test
- **Location of sampling ports**: 9.33 feet
- **Location of sampling ports**: four 90 degrees opposed sampling ports
- **Test ports located 53 feet downstream nearest disturbance and 150 feet upstream nearest disturbance (2002 test protocol)**

<table>
<thead>
<tr>
<th>Test Year</th>
<th>Exhaust Flow (scfm)</th>
<th>Exhaust Temp. (F)</th>
<th>Moisture (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>31,000</td>
<td>587</td>
<td>17</td>
</tr>
<tr>
<td>2001</td>
<td>31,000</td>
<td>402</td>
<td>14</td>
</tr>
<tr>
<td>2000</td>
<td>36,000</td>
<td>372</td>
<td>12</td>
</tr>
<tr>
<td>1999</td>
<td>24,000</td>
<td>434</td>
<td>11</td>
</tr>
<tr>
<td>1998</td>
<td>30,000</td>
<td>602</td>
<td>16</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>30,400</strong></td>
<td><strong>479</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

**Boilers**

- **Stack Height**: 126 feet, Title V
- **Stack Diameter**: 67 inches, 2002 stack test
- **Location of sampling ports**: 5.58 feet
- **Location of sampling ports**: four 90 degrees opposed sampling ports
- **Test ports located 30 feet downstream nearest disturbance and 12 feet upstream nearest disturbance (2002 test protocol)**
<table>
<thead>
<tr>
<th>Test Year</th>
<th>Exhaust Flow (scfm)</th>
<th>Exhaust Temp. (°F)</th>
<th>Moisture (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>29,000</td>
<td>491</td>
<td>20</td>
</tr>
<tr>
<td>2001</td>
<td>26,200</td>
<td>483</td>
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<td>2000</td>
<td>26,500</td>
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<td>1999</td>
<td>22,000</td>
<td>476</td>
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<td>1998</td>
<td>20,400</td>
<td>523</td>
<td>20</td>
</tr>
<tr>
<td>Average</td>
<td>24,820</td>
<td>493</td>
<td>21</td>
</tr>
</tbody>
</table>

Pushing Baghouse

Stack Height 68 feet, Title V
Stack Diameter 72 inches, 2002 stack test 6.00 feet

Location of sampling ports
two 90 degrees opposed sampling ports
test ports located 47 feet downstream nearest disturbance and 10 feet upstream nearest disturbance (2002 test protocol)

<table>
<thead>
<tr>
<th>Test Year</th>
<th>Exhaust Flow (scfm)</th>
<th>Exhaust Temp. (°F)</th>
<th>Moisture (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>132,000</td>
<td>89</td>
<td>3</td>
</tr>
<tr>
<td>2001</td>
<td>127,000</td>
<td>79</td>
<td>1</td>
</tr>
<tr>
<td>2000</td>
<td>96,000</td>
<td>110</td>
<td>3</td>
</tr>
<tr>
<td>1999</td>
<td>114,000</td>
<td>86</td>
<td>2</td>
</tr>
<tr>
<td>1998</td>
<td>112,000</td>
<td>112</td>
<td>3</td>
</tr>
<tr>
<td>Average</td>
<td>116,200</td>
<td>95</td>
<td>2</td>
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</table>

Flare Stacks
Refer to Title V Application
CERTIFIED MAIL #7099 3400 0016 7568 7961

January 21, 2003

City of Monessen
Mr. John T. DeLuca, Mayor and Director of Public Affairs
100 Third Street
Monessen, PA 15062

RE: Koppers Industries, Inc.
Monessen Coke Plant
Notification of Submittal of a Plan Approval Application to PADEP

Dear Mayor DeLuca:

In accordance with 25 PA Code § 127.43a, Koppers Industries, Inc. (KII), is providing formal notice of the submittal of a Plan Approval to Construct, Modify, or Reactivate an Air Contamination Source and/or Install an Air Cleaning Device (Permit Application) for the Monessen Coke Plant, located in Monessen, Pennsylvania. The permit application is being submitted to renew the Reasonably Available Control Technology (RACT) permit (65-000-853), which expires on March 20, 2003. The application will also request revisions to certain emission limitations contained in the RACT permit. The requested emission limitations are based on stack testing and updated emission factors.

KII plans to submit the application on January 31, 2003 to the Pennsylvania Department of Environmental Protection (PA DEP), Southwest Regional Office. A copy of the application can be obtained from the Southwest Regional Office for review and comment. There is a 30-day comment period, which begins after receiving this notification or after submission of the permit application to PA DEP, whichever comes later.

If you have any questions or desire further clarification, please do not hesitate to call the undersigned at (724) 684-1000.

Sincerely,

Gregory Shamitko
Manager, Environmental Affairs
January 21, 2003:

CERTIFIED MAIL # 7099 3400 0016 7568 7947

Mr. Tom Bayla, Chairman
Westmoreland County Board of Commissioners
2 North Main Street
Courthouse Square
Greensburg, PA 15601

RE: Koppers Industries, Inc.
Monessen Coke Plant
Notification of Submittal of a Plan Approval Application to PADEP

Dear Commissioner Bayla:

In accordance with 25 PA Code § 127.43a, Koppers Industries, Inc. (KII), is providing formal notice of the submittal of a Plan Approval to Construct, Modify or Reactivate an Air Contamination Source and/or Install an Air Cleaning Device (Permit Application) for the Monessen Coke Plant, located in Monessen, Pennsylvania. The permit application is being submitted to renew the Reasonably Available Control Technology (RACT) permit (65-000-853), which expires on March 20, 2003. The application will also request revisions to certain emission limitations contained in the RACT permit. The requested emission limitations are based on stack testing and updated emission factors.

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If you have any questions or desire further clarification, please do not hesitate to call the undersigned at (724) 584-1009.

Sincerely,

Gregory Shamitko
Manager, Environmental Affairs
1. Article Addressed to:
   Tom Bayla, Chairman
   Allegheny City Board of Commissioners
   2 North Main St
   Greensburg, PA 15601

2. Article Number (Copy from service label):
   7099 3400 0016 7568 7947

3. Service Type:
   Certified Mail
   Express Mail
   Registered
   Return Receipt for Merchandise
   Insured
   C.O.D.

4. Restricted Delivery? (Extra Fee):
   Yes

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Date: 01/22/2003

From: Allegheny County Board of Commissioners
To: Tom Bayla, Chairman
Address: 2 North Main St
Greensburg, PA 15601

PS Form 3811, July 1999
Domestic Return Receipt

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
FIGURES
COMBUSTION STACK FOR BATTERY 1B TO ATMOSPHERE

BATTERY 1B

COMBUSTION STACK FOR BATTERY 2 TO ATMOSPHERE

BATTERY 2

FUEL (COKE OVEN GAS)

Process Flow Diagram - Battery 1b and 2 Combustion Stacks
Koppers Industries, Inc., Monessen Coke Plant,
Monessen, Pennsylvania

Air/Compliance Consultants, Inc.
At the end of a coking cycle, doors at both ends of the coke oven are removed and the coke is pushed from the oven by a ram that is extended from a pusher machine. The coke is then pushed into a quench car, which carries the coke to the quench tower.
Process Flow Diagram - Flares
Koppers Industries, Inc., Monessen Coke Plant, Monessen, Pennsylvania

Figure 4