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Overview

- Glossary of Terms
- Manufacturing Process
- Current Regulations
- Regulatory Goals
- Draft Proposal
- Emissions Reductions
- Costs
- Next Steps
Glossary of Terms
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• PM – Particulate Matter
• NOx – Oxides of Nitrogen
• O3 – Ozone
• SO2 – Sulfur Dioxide
• TACs – Toxic Air Contaminants
• NH3 – Ammonia
• NESHAP – National Emissions Standard for Hazardous Air Pollutants
Manufacturing Process

SCHEMATIC DIAGRAM OF A CEMENT PLANT
Processing steps

Raw Materials
Processing steps

Blending and Homogenization
Processing steps

Preheating/precalcining
Processing steps

Clinker production
Applicable Regulations

- **Current District Regulations**
  - Permitting and New Source Review (2-1, 2-2)
  - Toxics (2-5)
  - Individual Pollutants (6-1 for PM, 8-2 for VOCs, 9-1 for SO2, 11-1 for Lead)

- **Federal Regulations**
  - National Emissions Standard for Hazardous Air Pollutants (NESHAP)
    - Sets limits for toxic air contaminants
    - Applies to all Cement Kilns
    - Compliance dates beginning 2013
  - Title V Permit
    - Federal Program administered by the District
    - Two rounds of Public Comment and a Public Hearing completed
    - Submittal to EPA for 45-day review in January 2012
Regulatory Goals

- Reduce emissions of NOx
- Reduce emissions of PM
- Ensure reduction in emissions of TACs
- Synergy with Federal Rules
### Emissions Standards

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>2.3 pounds per ton of Clinker Produced</td>
</tr>
<tr>
<td>PM</td>
<td>0.04 pounds per ton of Clinker Produced</td>
</tr>
<tr>
<td>NH3</td>
<td>10 parts per million by volume over baseline emission levels</td>
</tr>
<tr>
<td>Dioxins and Furans</td>
<td>0.2 nanograms/dry standard cubic meter</td>
</tr>
<tr>
<td>Mercury</td>
<td>55 pounds per million tons of Clinker Produced</td>
</tr>
<tr>
<td>Total Organic HAPs</td>
<td>9 parts per million by volume</td>
</tr>
<tr>
<td>HCl</td>
<td>3 parts per million by volume</td>
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</tbody>
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Draft Proposal

- **Opacity Standard**
  - Visible emissions of 10% opacity for more than 3 minutes in any hour
  - Miscellaneous operations and emission points throughout the plant

- **Fugitive Dust Control Plan Provisions**
  - Plan elements including:
    - Potential sources
    - Mitigation measures
    - Training procedures
    - Operation and Maintenance Procedures
  - Plan submittal, review, public comment, and final approval requirements

- **Emission Point Requirement**

- **Emissions Monitoring, Recordkeeping, and Reporting Requirements**
Potential Emissions Reductions

- Emissions Reductions from Proposed Rule
  - NOx – 42% Reduction – 3,900 pounds/day
  - Mercury – 93% Reduction – 0.67 pounds/day
  - Hydrocarbons – 91% Reduction – 54 pounds/day
  - HCl – 70% Reduction – 125 pounds/day
  - PM – 10% Reduction – 3 pounds/day
Costs

- **TAC’s - $27 to $32 million**
  - Control Equipment
    - Lime Slurry Injection
    - Activated Carbon Injection
  - Continuous Emissions Monitoring

- **NOx - $2.3 million**
  - Control Equipment
    - Selective Non-Catalytic Reduction System
  - Continuous Emissions Monitoring

- **Emission Point - $2.5 million**
Rule Development Process To Date

- Control Technology Research
- Evaluation of Federal, State and Local Rules
- Consultation with EPA Staff
- Community Meetings
- Consultation with Industry Representatives
- Internal Workgroup Discussions
Next Steps

• Draft Rule and Workshop Report
• Public Comments Due January 3, 2012
• Socioeconomic and Environmental Analyses
• Final Proposal
• Public Hearing (First Quarter of 2012)
Contact Information

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• Proposed Rule Documents:

• Lehigh’s Title V Permit:
  http://www.baaqmd.gov/Divisions/Engineering/Title-V-Permit-Programs/Title-V-Permits/Santa-Clara/A0017/Lehigh-Southwest-Cement-Company.aspx