## Middletown Cogeneration Project

### AK Steel Projected Actual Emission Basis Assumptions

**For the Projected Actual emissions basis, the BFG SCFM from September 28, 2010 was used by AK Steel**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Blast Furnace dSCFM | | **247.4** | **MdSCFM** | | | | |
| Heat Content | | **121.1** | **Btu/dSCF LHV** | | | | |
| Blast Furnace Runtime per Year | | **98.4%** | | | | | |
| Volume | | 128,005 | MMdSCF/yr | | | | |
| Btu | | **15,501,396** | **MMBtu/yr** | BFG increase | 9.8% | | |
| BFG to Flare | | 52.9% | 8,200,238 | MMBtu/yr LHV dry based on Baseline Fuel Ratios | | | |
| BFG to #2 Boiler House | | 23.2% | 3,596,324 | MMBtu/yr LHV dry based on Baseline Fuel Ratios | | | |
| BFG to Stoves/Coke Ovens | | 23.9% | 3,704,834 | MMBtu/yr LHV dry based on Baseline Fuel Ratios | | | |
| Total | | 100% | 15,501,396 | MMBtu/yr LHV dry | | | |
| Natural Gas to #2 Boiler - Baseline | | | 653,078 | MMBtu/yr LHV dry | | | |
| | | | 717,002 | MMBtu/yr LHV dry | Based on | 9.8% | increase |

| | | | |
|---|---|---|---|
| Nat Gas Avg Heating Value | | 1018 | Btu/dSCF LHV |
| BFG SO2 Emission Factor | | **0.127** | **# SO2/MMBtu LHV dry** |
| | PPM | 100 | |

**Blast Furnace Stoves and BFG to Coke Ovens**

| | MMBtu/yr LHV dry | Btu/dSCF LHV | Lbs/MMdSCF | Lbs/MMBtu LHV dry | Lbs/ton | Tons/yr |
|---|---|---|---|---|---|---|
| **PM,PM10,PM2.5** | mmbtu/yr | Btu/SCF | lbs/mmscf | | lbs/ton | Tons/yr. |
| **Total** | 3,704,834 | 121.1 | 8.6 | | 2000 | **131.6** |
| **PM Filterable** | 3,704,834 | 121.1 | 2.9 | | 2000 | **44.4** |
| **PM Condensibles** | 3,704,834 | 121.1 | 5.7 | | 2000 | **87.2** |
| **SO2** | 3,704,834 | | | 0.127 | 2000 | **235.3** |
| **NOx** | 3,704,834 | 121.1 | 23 | | 2000 | **351.8** |
| **CO** | 3,704,834 | 121.1 | 13.7 | | 2000 | **209.6** |
| **VOC's** | 3,704,834 | 121.1 | 0 | | 2000 | **0.0** |