

<b>BAY AREA AIR QUALITY MANAGEMENT DISTRICT Best Available Control Technology (BACT) Guideline</b>
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**Source Category**

<b>Source:</b>	IC Engine – Digester Gas Fired	<b>Revision:</b>	<b>1</b>
		<b>Document #:</b>	<b>96.5.1</b>
<b>Class:</b>	≥ 50 Hp Output	<b>Date:</b>	<b>2/21/2008</b>

**Determination**

<b>Pollutant</b>	<b>BACT</b> <b>1. Technologically Feasible/ Cost Effective</b> <b>2. Archived in Practice</b>	<b>TYPICAL TECHNOLOGY</b>
<b>POC</b>	<ol style="list-style-type: none"> <li>1. 0.6 g/bhp-hr<sup>a</sup></li> <li>2. 1.0 g/bhp-hr<sup>a</sup></li> </ol>	<ol style="list-style-type: none"> <li>1. n/s<sup>a</sup></li> <li>2. Lean Burn Technology<sup>a</sup></li> </ol>
<b>NOx</b>	<ol style="list-style-type: none"> <li>1. 1.0 g/bhp-hr<sup>a</sup></li> <li>2. 1.25 g/bhp-hr<sup>a</sup></li> </ol>	<ol style="list-style-type: none"> <li>1. n/s<sup>a</sup></li> <li>2. Lean Burn Technology<sup>a</sup></li> </ol>
<b>SO<sub>2</sub></b>	<ol style="list-style-type: none"> <li>1. n/s<sup>a</sup></li> <li>2. 0.3 g/bhp-hr<sup>a</sup></li> </ol>	<ol style="list-style-type: none"> <li>1. Digester gas treatment w/ &gt; 80% H<sub>2</sub>S removal<sup>a</sup></li> <li>2. Digester gas pretreatment to remove H<sub>2</sub>S<sup>a,f</sup></li> </ol>
<b>CO</b>	<ol style="list-style-type: none"> <li>1. 2.1 g/bhp-hr<sup>a</sup></li> <li>2. a) Nominal Standard<sup>b,c</sup>: Either 2.65 g/bhp-hr or 265 ppm @ 15% oxygen. b) Action Standard<sup>b,d</sup>: &gt;345 ppm @ 15% oxygen c) Not to Exceed Standard<sup>b,e</sup>: 377 ppm @ 15% oxygen d) Engine Top End or major maintenance or overhaul required every 8,000 hrs of engine operation or 12 months of operation, whichever comes first<sup>b</sup>.</li> </ol>	<ol style="list-style-type: none"> <li>1. n/s<sup>a</sup></li> <li>2. Lean Burn Technology<sup>a</sup></li> </ol>
<b>PM<sub>10</sub></b>	<ol style="list-style-type: none"> <li>1. n/d<sup>a</sup></li> <li>2. n/s<sup>a</sup></li> </ol>	<ol style="list-style-type: none"> <li>1. n/d<sup>a</sup></li> <li>2. Digester gas pretreatment<sup>a,f</sup></li> </ol>
<b>NPOC</b>	<ol style="list-style-type: none"> <li>1. n/a<sup>a</sup></li> <li>2. n/a<sup>a</sup></li> </ol>	<ol style="list-style-type: none"> <li>1. n/a<sup>a</sup></li> <li>2. n/a<sup>a</sup></li> </ol>

## References

- a. BAAQMD, 6-2-1995.
- b. BAAQMD Permit Application #16907, 1-29-2008.
- c. Source test required within 360 hours of engine startup after top-end or major maintenance event. Either 2.65 g/bhp-hr or 265 ppm @ 15% O<sub>2</sub> demonstrates compliance.
- d. Weekly source testing required to demonstrate CO emissions do not exceed 345 ppm @ 15 % O<sub>2</sub>. If 345 ppm is exceeded, the owner or operator must adjust engine operation if possible or conduct engine maintenance and retest to demonstrate CO emission level does not exceed 345 ppm. If retest shows 345 ppm exceeded, engine must be shutdown and maintenance performed.
- e. If CO exceeds 377 ppm, the District has cause to issue NOV. Engine must be immediately shutdown and maintenance performed.
- f. Digester gas pretreatment: Ferric chloride injection into wastewater and/or addition of iron salts to digester sludge and/or iron sponge filtration of digester gas.