

# The EMISSIONS GUIDELINE

The THM quick guide to fired heater emissions. For a more detailed review of each of these emissions, make sure to check out our [blog](#).

## NO<sub>x</sub>

Nitrogen Oxide

### Why is it bad?

- Plays an active role in the foundation of ozone - bad for health
- Combines with VOC's and sunlight to create smog

### Solutions:

- Low NO<sub>x</sub> burners - 0.02 lb/MMBtu
- External flue gas recirculation - 0.008 lb/MMBtu
- Selective Catalytic Reduction (SCR) - 0.002 lb/MMBtu

## CO

Carbon Monoxide

### Why is it bad?

- Colorless, odorless, tasteless toxic air pollutant
- Deadly if breathed in large quantities

### Keys to minimize:

- Design heater with hot radiant box
- Operate with excess air
- Operate the heater at normal (or design) firing rates
- Select a burner that does a good job of mixing the air and fuel

## VOC

Volatile Organic  
Compounds

### Why is it bad?

- Some VOC's are cancer causing (benzene)
- Combines with NO<sub>x</sub> to form ozone and smog

### Keys to minimize:

- Design heater with hot radiant box
- Operate the burners with precise air and fuel ratios
- Sealing the heaters to ensure that virtually all air ingress is through the burner throat where it can be properly mixed with the fuel

Follow us:

