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.

NOx

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 NOx 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 NOx 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

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