Reciprocating Internal Combustion Engine (RICE) MACT

- 40 CFR 63, Subpart ZZZZ
- Proposed December 19, 2002
- New/Reconstructed sources - 60 days from final FR notice to comply
  - if new/reconstructed source starts up 60 days after FR notice, then must comply upon start up
- Existing Sources - 3 years after final rule published in FR
  - June 15, 2007

RICE MACT *continued...*

- Stationary reciprocating internal combustion engines are used at facilities such as
  - power plants,
  - chemical and manufacturing plants, &
  - pipeline compressor stations

- HAPs include formaldehyde, acrolein, acetaldehyde & methanol

RICE MACT *Applicability Criteria*

- Must be located at a major source of HAPs;
  - emits 10 tpy or more of a single HAP, or 25 tpy or more of a combination of HAPs; including fugitives
  - except for oil or gas production facilities, a “major source” of HAP emissions is determined for surface site (per §112(n))
- RICE must be above 500 horsepower; **<u>and</u>**
- Applies to exhaust stack emissions from all new (commenced construction after Dec. 19, 2002) and certain existing RICEs

RICE MACT *continued...*

- Existing and New 4-stroke rich burn (4SRB) engines
  - reduce formaldehyde by 76%, or
  - limit formaldehyde concentration to 350 parts per billion
  - non-selective catalytic reduction likely
- New 2-stroke lean burn (2SLB) engines
  - reduce carbon monoxide (CO) by 58%, or
  - limit formaldehyde concentration to 12 parts per million

RICE MACT *continued...*

- New 4-stroke lean burn (4SLB) engines
  - reduce carbon monoxide (CO) by 93%, or
  - limit formaldehyde concentration to 14 parts per million
- New compression ignition (CI) engines
  - reduce carbon monoxide (CO) by 70%, or
  - limit formaldehyde concentration to 580 parts per billion
- CO catalytic oxidation systems likely for 2SLB, 4SLB & CI

Some RICEs Subject to Limited Requirements

- See handout
  - No Rule Requirements, No Initial Notification
  - Initial Notification Only per §63.6645(d)
  - Initial Notification per §63.6645(d) & Requirements of §63.6625(c), §63. 6650(g), & §63. 6655(c) -- no emission or operating limits