



Gas Electric Partnership

September 9, 2010

RAISING PERFORMANCE. TOGETHER™

reignite

Future Emissions Regulations

National Air Ambient Quality Standard(NAAQS)

- NOx reduction in Non-Attainment areas
- Proposed regulation calls for 80% - 90% reduction from 1995 levels

New Source Performance Standards(NSPS)

- Relates to new, modified and reconstructed units
- Focus on Nox, VOC's and CO
- Regulation was finalized in 2008, standards will get tighter in 2010-2011

National Emissions Standard for Hazardous Air Pollutants(NESHAP)

- Focus on hazardous pollutants and maintenance practices
- Latest version primarily impacts HP < 500, however the standard will be reviewed in 2012(or sooner) for > 500HP

NAAQS Impact for Existing Engines

Nox SIP States

Yes

Cooper Bessemer

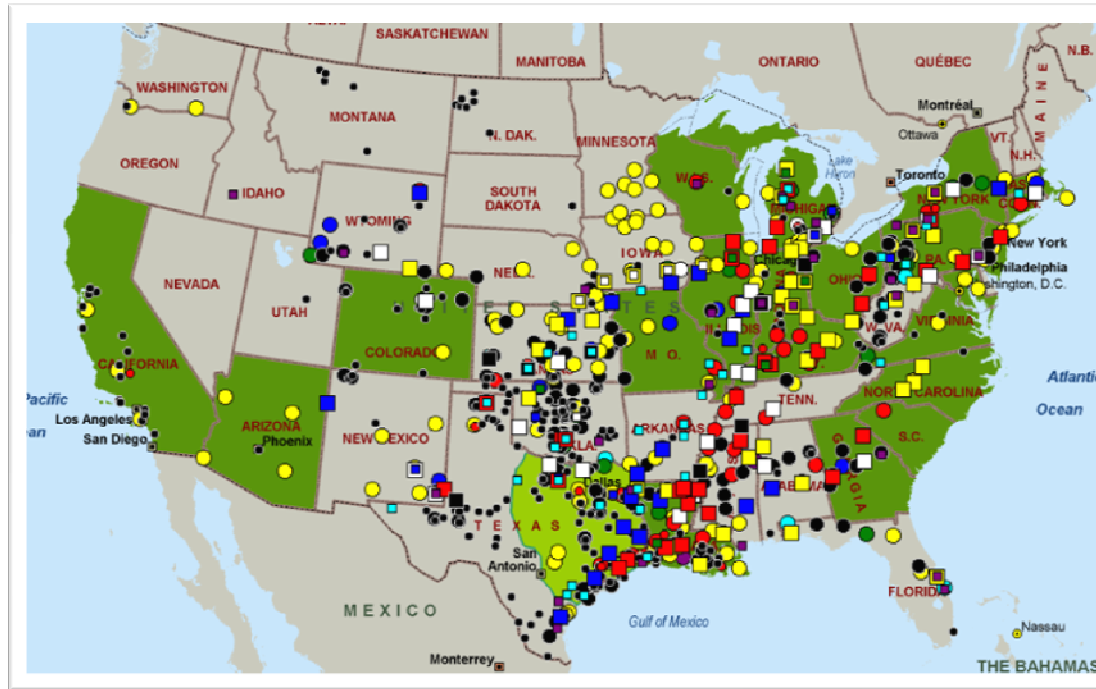
- GMV
- GMW
- LSV
- Quad
- V-250
- V-275
- W330
- Z330

IR/Clark Slow Spd

- BA
- HBA
- TCV
- TLA
- UTC

IR/Clark High Spd

- HVA
- KVG
- KVR
- KVS
- MLV
- Superior 2400
- Superior 825



Thousands of engines will be impacted, including over 3,000 CB, DR, and Enterprise

*Note this is at 75 ppb for Ozone

Choices for Compliance

Replace

High Cost Solution

- New high speed recip. package
- Electric motor
- Gas turbine
- New & Remanufactured integral

Retrofit

Low Cost Alternative

- Upgrade existing unit



Replace or Retrofit?

Make	Model	Cyl	HP	Retrofit Cost (\$MM)	Replacement Cost (\$MM)	Retrofit Cost as % of Replacement
Clark	TCVC	20	11000	\$4.3	\$37.4	11%
Clark	TCVC	16	7830	\$4.1	\$26.6	15%
Cooper	Z330	16	11000	\$2.7	\$37.4	7%
Cooper	W330	16	8000	\$2.6	\$27.2	9%
I.R.	KVR616	16	6000	\$2.6	\$20.4	13%
I.R.	KVT410	10	2440	\$2.0	\$8.3	25%
Clark	TLA	6	2000	\$2.8	\$6.8	42%
Cooper	GMVH	10	2250	\$1.9	\$7.6	26%

RAISING PERFORMANCE. TOGETHER™




LEADING PIPELINE RESEARCH

Good Advice?

Start Early!

Currently the retrofit providers are at idle capacity
It will take time to build capacity to perform the work

Engineers

Project Managers

Construction supervisors

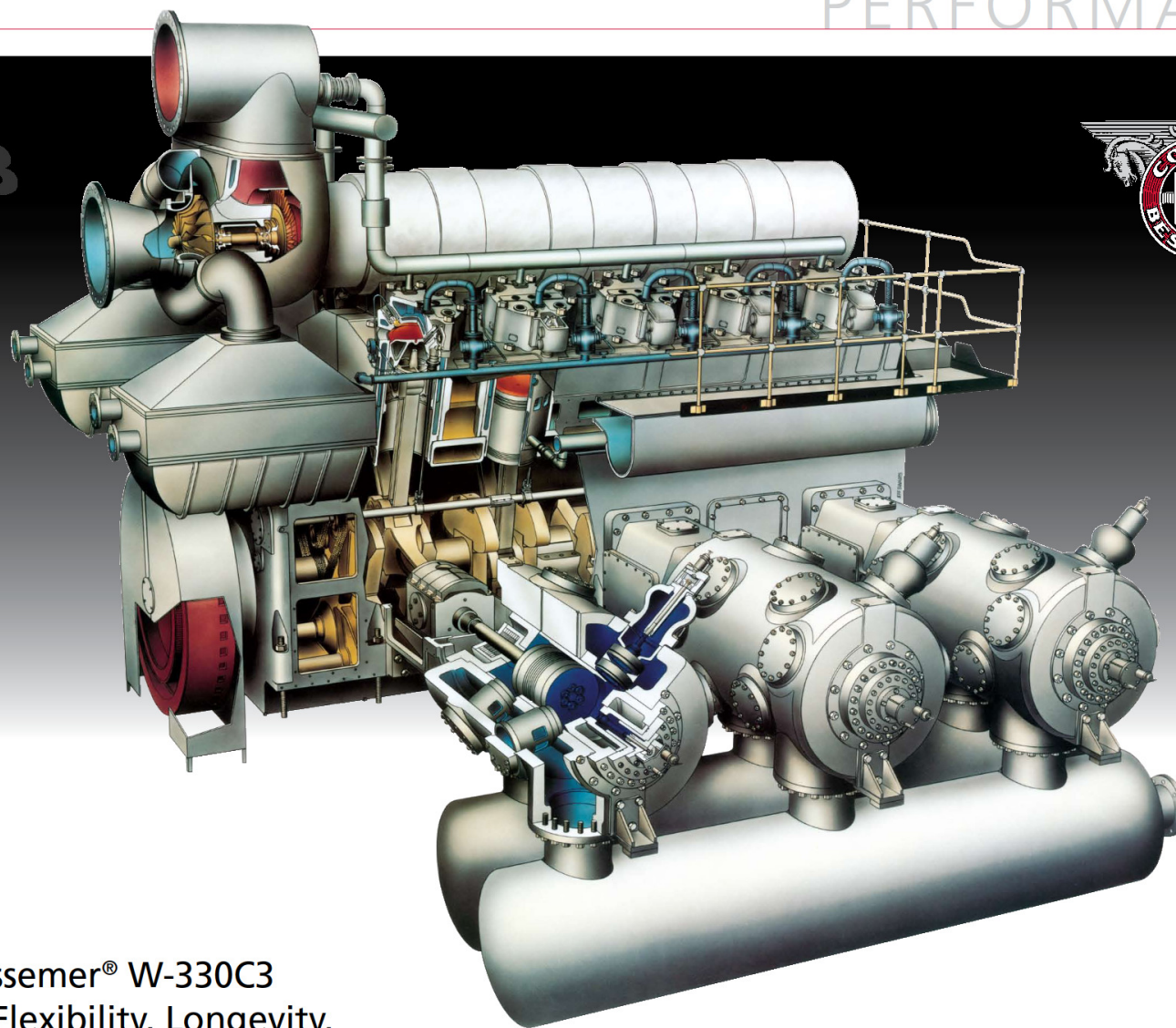
Technicians

Welders

Commissioning specialists

Etc etc etc

W-330C3



Cooper-Bessemer® W-330C3
Efficiency. Flexibility. Longevity.