



Current EPA Air Regulatory Issues for the Gas Compressor Industry

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Gas/Electric Partnership Conference

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Current Regulatory Environment



- NGOs continue to press for EPA regulations through court actions and public comments.
- EPA responding to court cases, upholding stringent interpretations of CAA mandates.
- EPA Administrator sympathetic to NGO requests.
- Presidential campaign makes for interesting mix:
 - Administration wants key rules final before election.
 - Must balance because of strong Natural Gas agenda.
- Environmental agenda is being driven via regulation.

Expected High Impact EPA Air Quality Rulemakings



(Does not include Climate Change Rules)

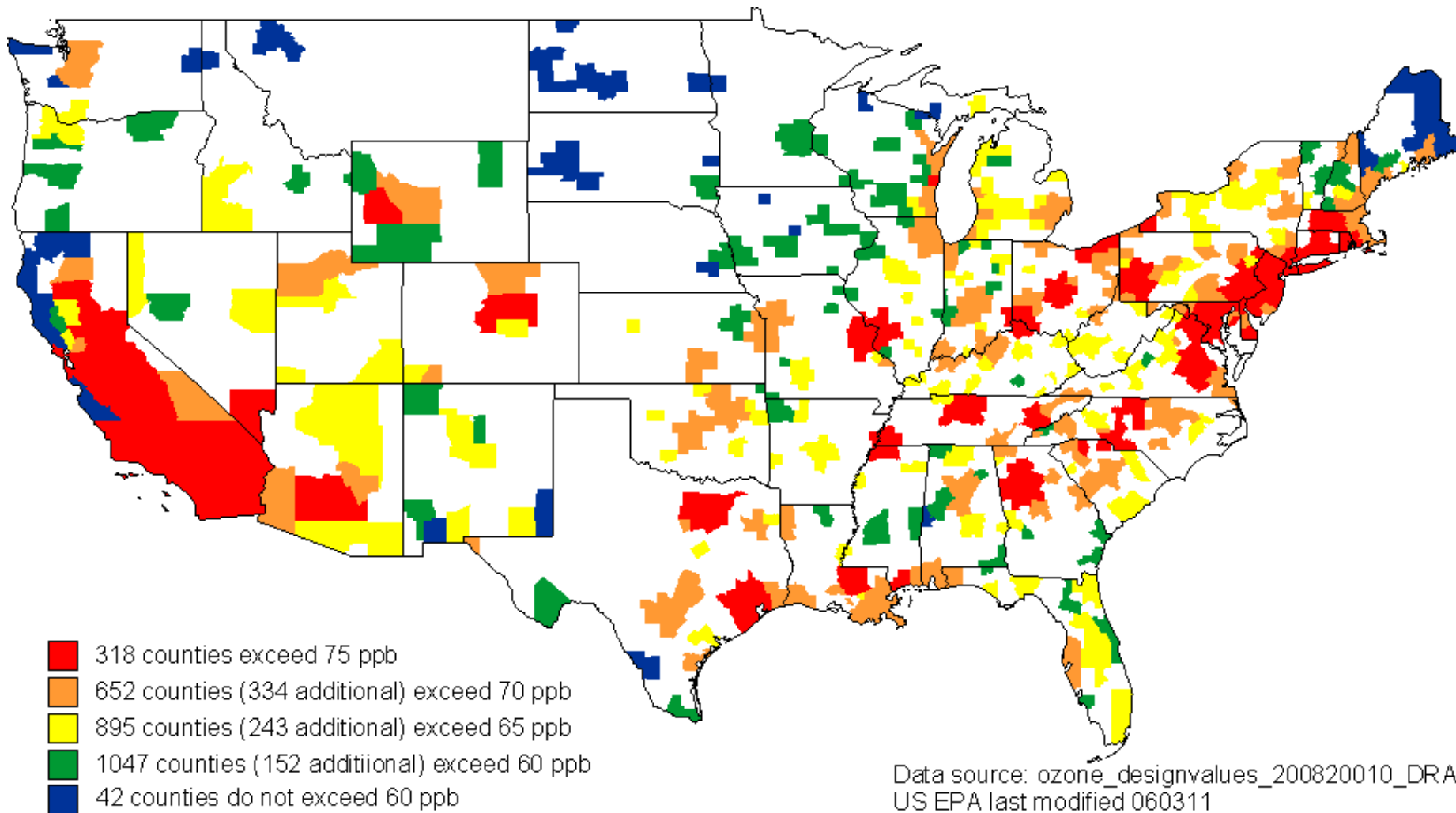
- Implementation of 75 ppb Ozone NAAQS
- Proposed Oil & Gas NSPS/NESHAP
- Air quality modeling concerns
- Existing Engine NESHAP
- Review of O&G NSPS KKK & LLL and NESHAP HH & HHH
- Source Aggregation
- Revised Boiler/Heater NESHAP

Ozone NAAQS Implementation



- 8-hr standard lowered to 75 PPB March 2008.
- Obama Administration dropped consideration of further lowering the standard.
- Next Ozone NAAQS review in 2013/2014.
- Implementation of 75 PPB standard is mainly concern for locations near urban areas.
- Impact to rural areas becomes severe at Ozone NAAQS below 70 PPM.

2008 – 2010 Ozone Monitoring Data Nonattainment Counties & CMSAs



Data source: ozone_designvalues_200820010_DRAFT)
US EPA last modified 060311

Includes Alaska and Hawaii, which do not exceed 60 ppb

Proposed O&G NSPS/NESHAP



- 8-year review ordered with court deadline:
 - NSPS KKK – Leak Detection and Repair for Gas Processing Plants
 - NSPS LLL – Sulfur Recover Units
 - HESHAP HH – Production Sector Dehydrators and Tanks
 - NESHAP HHH – Transmission Pipeline Dehydrators and Tanks
- Proposed rule is large, complex and rushed:
 - Proposed August 23, 2011.
 - API filed 540 pages of comments on November 30, 2011.
 - API discussing concerns with EPA.
 - Final Rule Deadline is April 3, 2012.

New NSPS Subpart 0000



- New equipment provisions apply from date of proposal.
- Gives end date for KKK (LDAR) and LLL (Sulfur Recovery).
- Places revised KKK and LLL provisions in 0000:
 - Applies to Gas Processing Plants,
 - New LDAR leak rate of 500 ppm and includes connectors.
- EPA proposed to add 4 new NSPS Equipment Categories:
 - Reduced Emission Completions
 - Tank Emissions
 - Compressor Packing Leaks
 - Pneumatic Controllers
 - Applies to Production Equipment (never regulated by CAA)
 - Applies to Transmission and Distribution Sectors

Flowback from Completions of Hydraulically Fractured Gas Wells



- Control Requirements:
 - Route recovered liquids into storage vessels.
 - Route recovered gas into a gas gathering line or collection system.
 - Employ sand traps, surge vessels, separators, and tanks during flowback.
 - All salable quality gas must be routed to gas gathering line as soon as practicable.
 - If emissions cannot be directed to gathering line, route to completion combustion device.
 - Wildcat and delineation wells must route emissions to completion combustion device.
- Suspected Advocacy Gains:
 - 1-2 year phase-in period for gas recovery.
 - Flexibility in recovery equipment and procedure.
 - Some type of pressure exemption from gas recovery.
 - No VOC exemption is being considered.



Storage Vessels



- Control Requirements:
 - Closed vent system.
 - Cover of surface area of all liquid.
 - 95% control (by combustion device, VRU, or flare) of all storage vessels with an annual average throughput of:
 - Condensate \geq 1 bpd
 - Crude oil \geq 20 bpd
- Suspected Advocacy Gains:
 - Emission applicability threshold (6–12 tpy).
 - 1-3 year phase-in period.
 - Applicability to crude and condensate.
 - Product accounting practices for flow determination.
 - 90-day period to determine emissions and install controls.



Pneumatic Controllers



- Control Requirements:
 - At gas processing plants – zero emissions (i.e., prohibition of natural gas-driven pneumatic devices).
 - Everywhere else – devices must emit less than 6 scf/hr.
 - High-bleed controllers allowed on case-by-case demonstration to EPA.
- Suspected Advocacy Gains:
 - Minimum VOC applicability threshold, 5-10% VOC by wt.
 - Snap-acting controllers and actuator emissions not regulated.
 - Continuous, low bleed controllers require documentation, but not regulated
 - New controllers only, not modified or reconstructed.
 - 1-2 yr phase-in period to identify compliance information.
 - Clearer definitions.



Compressors (except at well sites)



- Control Requirements:
 - Replace rod packing before the compressor has operated for 26,000 hours.
 - Dry Seals for centrifugal compressors.
- Suspected Advocacy Gains:
 - Minimum VOC applicability threshold, 5-10% VOC by wt.
 - Centrifugal compressors – dry seal systems not regulated.
 - Centrifugal compressors – wet seals allowed, but must be controlled.



Proposed NESHAP HH Rule Changes Summary



- Applies to major sources.
- All tanks must be included in major source determination.
- All storage vessels subject to standards (flashing exemption removed).
- Dehydrator emission limitations:
 - Elimination of 1 tpy alternative standard for large dehydrators.
 - New standard for small dehydrators (effective upon final rule in federal register).
- Equipment leaks
 - Lower leak definition for valves (500 ppm).
- Require compliance during SSM (affirmative defense).
- More stringent monitoring and testing requirements.



Air Quality Modeling Concerns

- Air quality modeling becoming problematic:
 - Recent lowering of Ozone NAAQS.
 - Short-term NO₂ & SO₂ NAAQS.
 - Use of NAAQS modeling to set nonattainment areas (SO₂).
 - NEPA air quality reviews for federal land development.
- Models assumptions too conservative for these uses.
- Models need more complete verification before use.
- Model investment/development has not kept pace with regulatory developments.



Existing Engine NESHAP Revisions

- Existing SI Engine compliance October 2013
- CPMS revisions finalized March 9, 2011 for major facilities.
- Emergency Demand Response Settlement – 60 hr/yr to be proposed by April 20, 2012.
- O&G Industry Settlement expected soon.
- Settlement proposal expected by April 20, 2012.

Q & A Session

