



Alternative Fuels Roadblocks

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Roadblocks

- Major NSR
- Minor NSR
- State Air Toxics
- Federal Air Toxics

Major NSR

- Major New Source Review
 - More sources are potentially subject to NSR b/c non-attainment designations
 - Fuel Switch can trigger NSR
 - Pet Coke can increase SO₂ But
 - Coal/Fuel Oil to Natural Gas can trigger NSR
 - Hourly Rate Test (OK in NC, possible SC?)
 - Co-Firing / Blending
 - PSD Policy Shifting

Major NSR

- Duke Power 40 TPY Exemption
 - Using this approach there is a modification only when you burn or blend the fuel
 - True Causal Impact
 - Up to the significant level without triggering MNSR
 - E.g. 40 tpy worth of cotton waste, 40 tpy worth of by-product fuel

“BACT Limited”

- BACT Conditions
 - Locked Into Low-Impact Fuel
 - Low-Sulfur Coal
 - Locked into Natural Gas
 - BACT decision could have been made at a time when fuel costs were much lower
 - RE-BACT
 - Still have to demonstrate compliance with NAAQS and Increment
 - Watch for updated technology

"RE-BACTing"

- Energy Intensive Control Systems
 - End of Useful Life of Equipment – considering replacement?
 - RTO Example
 - Cost was \$2800 in 1998
 - Cost \$3700 now
 - Coincide with EPA Risk-based MACTs – controls now trigger on risk

Minor NSR Issues

- SIP Limits
 - PM, SO₂, NO_x
 - Difficult to get emissions data
 - Intuitively low emissions but without hard data regulators have difficulty assessing compliance
- Auxiliary Equipment
 - Material handling (e.g. crushing, conveying)

Minor NSR Issues

- SIP Limits
 - Example – Pet Coke with Higher Sulfur
 - Might not meet the SIP SO₂ Standard
 - Bubble with other Sources
 - Alternative Limits
 - Both Cases a demonstration of NAAQS compliance is required.

Minor NSR Issues

- SIP Permit Conditions
- Never abandon alternative fuels
- Example:
 - Brick Plant originally permitted to burn wood waste
 - Built 6 years ago without wood burner or systems
 - Still valid permit today (unlike MNSR)
- Permit Alternative Fuels B4 You Need Them

State Air Toxics

- State Air Toxics
 - Trigger Air Toxics Demonstration
 - Limited Information
 - Profile of air toxics?
 - Some alternative fuels have undergone significant testing
 - ❖ Tire derived fuel
 - ❖ Bio-Fuels (vegetable oils, soybean oils, etc..)
 - Equivalency to Unadulterated Fuels
 - Landfill gas = Natural Gas

Federal Air Toxics

- Once-In-Always-In “Policy”
- Clearly this policy is a serious impediment to environment improvement
 - Most fuel switches are to an environmentally “cleaner” fuel.
 - Raw material change to reduce HAP emissions
 - No regulatory (economic) relief by going to fuel with a lower environmental impact

Anti-Backsliding Fiction

- Fuel switch to less environmentally fuel
 - NAAQS protected, Increment Protected
 - Still Allowed?
- Anti-backsliding in the non-attainment provision
- Typically not present outside of non-attainment

Examples

- Utilities in NC
 - Waste restaurant “grease”
 - Synthetic IRS Coal
 - Cotton waste
 - Wood waste
 - Marijuana (unintended 2ndary impacts?)
- Industrial Boilers
 - Cotton Waste
 - Vegetable Oils
 - Landfill Gas