

The background of the slide is a landscape photograph showing a wide, flat, light-colored area, possibly a dry lake bed or a field, under a bright blue sky filled with large, white, fluffy clouds. The horizon line is low, showing some distant trees and structures.

NAAQS UPDATE

Prepared for

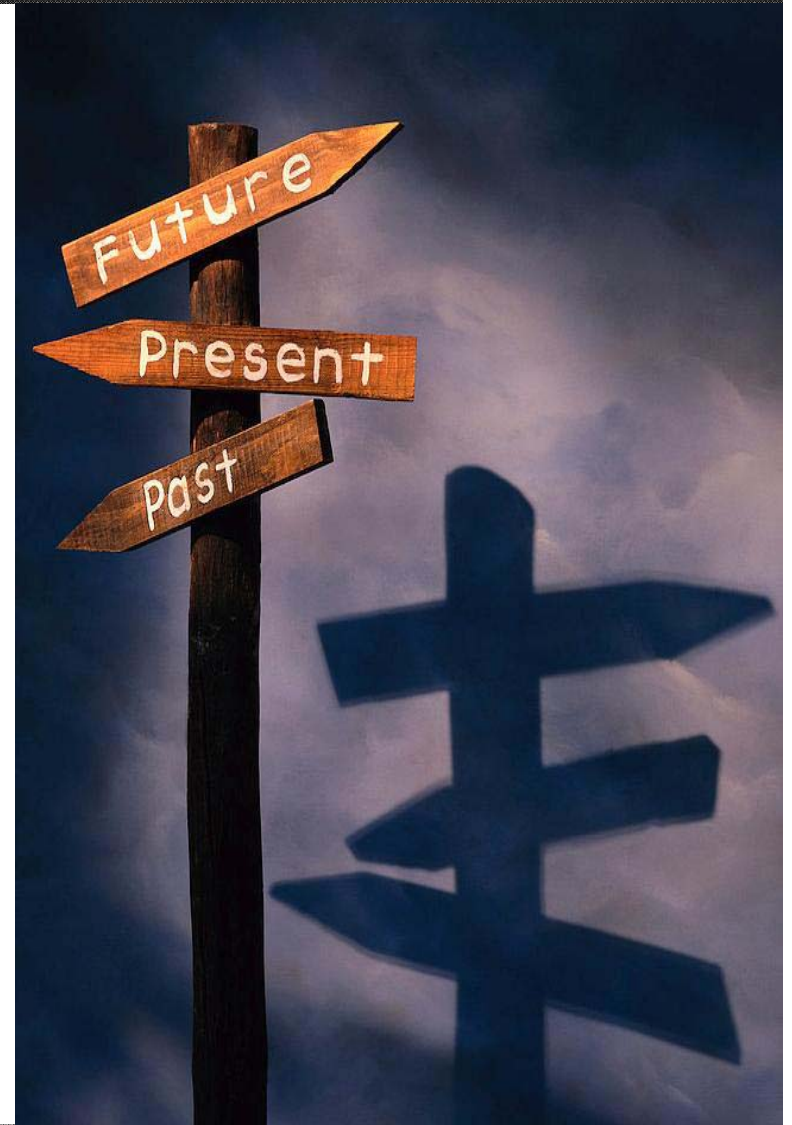
CIBO Committee Meeting

December 5, 2012

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What We Will Be Covering

- NAAQS Revisions
 - Ozone,
 - PM_{2.5},
 - 1-Hour SO₂ & NO₂



Air Permitting Challenges

- Tightening NAAQS Standards - Model as early as possible
 - Ozone
 - 24 Hour PM_{2.5}
 - 1 Hour SO₂
 - 1 Hour NO₂

NAAQS Revisions/Ratchets

- Ozone – 1997, 2008, 2014?
 - Obama halted reconsideration of 2008 rule in September 2012
 - October 2013 proposal/July 2014 final
- PM_{2.5} – 1997, 2006, 2012?
 - June 2012 proposal/December 2012 final
- SO₂ – new 1-hour standard in 2010
 - Implementation uncertainty
- NO₂ – new 1-hour standard in 2010

Ozone NAAQS

- EPA has restarted process of implementing the 2008 standard
 - Non-attainment area designations finalized in May 2012.
- EPA is currently working on separate review of the ozone standards, scheduled to be completed in 2014.
- The standard could be lowered to **0.070 ppm** at that time, causing wide-spread non-attainment areas for Ozone.

Challenges with Fine Particulate (PM_{2.5}) NAAQS

- 24-hour standard is very stringent – 4 times lower than PM₁₀ NAAQS.
- EPA has proposed lowering the annual standard for PM_{2.5} from 15 to as low as 11 µg/m³ on December 14, 2012. Best guess is that it will be 12 to 13 µg/m³.
- Background concentrations high leaving little room for growth
- Contributions from fugitive sources
- Contributions from precursor emissions (SO₂ and NO_x)
- Proposed new secondary standard for urban visibility
 - We currently do not have a way to measure or model it.



24
HOURS

1-Hour NAAQS for SO₂ and NO₂

- 1-hour standards promulgated in 2010
- Very stringent in comparison to previous NAAQS
- NAAQS limits the 3-year average of the th percentile of the maximum daily 1-hour concentrations

Pollutant	Standard (ppb)	Standard in $\mu\text{g}/\text{m}^3$	%tile of maximum daily 1-hour
SO ₂	75	197	99
NO ₂	100	188	98

1-Hour SO₂ Implementation Challenges



- Significant modeling challenges for permitting new and modified sources
 - Variability of emissions
 - AERMOD limitations
- Utilities face other new regulatory programs that will affect allowable SO₂ emissions
 - MATS
 - CSAPR
- Sierra Club advocating:
 - Modeling all medium and large SO₂ sources for compliance
 - Review of third party modeling for over 70 facilities
 - EPA object to Title V permit renewals where there is modeling evidence of non-compliance

Challenges with 1-Hour NO₂ NAAQS

- NO₂ is a secondary pollutant
 - (NO + O₃ → NO₂ + O₂)
 - Rate of conversion controls the concentration
 - Modeling often overestimates the conversion rate
- Advanced modeling approaches require in-stack NO/NO_x ratio and representative ambient ozone data
- New monitoring network required by January 2013
 - Re-designations in 2016-2017
 - Monitors by roadways (NO₂ and PM_{2.5})
- Multi-pollutant secondary standard to address deposition-related acidification of sensitive aquatic ecosystems
 - 5 year field study to collect data for next NAAQS review cycle



Questions?



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