

**AIR QUALITY ISSUES
NEUPG Meeting
Warwick, Rhode Island
12 December 2007**

**Everett Crews
Asphalt Innovations**

REASONS FOR AIR QUALITY REGULATIONS

Public Health (Respiratory disease):

52 million people worldwide suffer from asthma

15 million asthmatics in the US: cost in health care of roughly \$1000/person (\$1.5 billion)

Environmental impact:

smog, ozone depletion, global warming

REASONS FOR AIR QUALITY REGULATIONS

Public Health (Respiratory disease):

Air Quality Index (AQI) Values	Levels of Health Concern	Colors
<i>When the AQI is in this range:</i>	<i>...air quality conditions are:</i>	<i>...as symbolized by this color:</i>
0 to 50	Good	Green
51 to 100	Moderate	Yellow
101 to 150	Unhealthy for Sensitive Groups	Orange
151 to 200	Unhealthy	Red
201 to 300	Very Unhealthy	Purple
301 to 500	Hazardous	Maroon

LINKS BETWEEN AIR QUALITY AND HEALTH

During 1996 Summer Olympic Games in Atlanta, GA

peak morning traffic decreased 23%

peak ozone levels decreased 28%

Emergency room visits for asthma events in children decreased 42%. (Rates for other emergency visits did not change.)

AGENCIES INVOLVED IN AIR QUALITY MONITORING & REGULATION

International Agencies:

World Health Organization
European Environmental Agency
Kyoto oversight committees

U.S. Federal Government:

EPA
OSHA
NIOSH
CDC

A cross-agency U.S. Government Web site. [List of AIRNow partner agencies](#) [About AIRNow](#) | [Contact Us](#) | [FAQs](#) | Search:



Quality of Air Means Quality of Life

International Air Quality

NOTE: Most links on this page are pointers to other hosts and locations in the Internet. [EXIT AIRNOW ▶](#)

[Asia](#) | [Australia/Oceania](#) | [Europe](#) | [North America](#) | [South America](#)

Asia		
China	Air Pollution Index (API) daily reports	
China	Current Air Pollution Index (API)	Hong Kong
China	Environmental Monitoring Center	Shanghai Chinese
India	Air Quality Index	
Japan	Tokyo Real-time data	Japanese
Saudi Arabia	PME Air Quality Data	
South Korea	Air Quality Information	
Taiwan	Current PSI	
Thailand	Latest Air Quality Index	
Vietnam	Local air quality	Ho Chi Minh City
Australia/Oceania		
Australia	24-hour Air Quality Summary	New South Wales
Australia	The Department of Environment and Conservation	Western Australia

NUMEROUS AGENCIES ARE INVOLVED IN AIR QUALITY MONITORING & REGULATION

Regional / State:

**CT Dept. of Environmental Protection
MA Dept. of Environmental Protection
NY Dept. of Environmental Conservation
RI Dept. of Environmental Management
etc.
Ozone Transport Commission (OTC)**

Municipal:

**City of Boston Air Pollution Control Commission
New York City Dept. of Environmental Protection
Philadelphia Dept. of Public Health & Safety
etc.**

NUMEROUS AGENCIES ARE INVOLVED IN AIR QUALITY MONITORING & REGULATION

Member Login

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NACAA




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Welcome to NACAA's Web Site

The National Association of Clean Air Agencies (formerly STAPPA and ALAPCO) welcomes you to this web site. Explore this web site to locate state and local air agencies across the nation, access the latest information on important air pollution topics, learn about the association's positions and initiatives and find links to other related web sites. Please also visit NACAA's international web site, [Clean Air World](#).

Search [Go](#)

 [Clean Air News](#)

TOP HEADLINES


EPA Issues Advanced Notice of Proposed Rulemaking for Lead NAAQS (December 5, 2007)

NACAA Testifies on Petroleum Refineries Residual Risk and Technology Review Proposal (November 27, 2007)

FIND A U.S. CONTACT



Select State:

Select one 

STATE AND LOCAL INNOVATIONS

- [Climate Change Initiatives in the States](#)
- [State Mercury Control Programs](#)
- [State Greenhouse Gas Actions](#)
- [EPA's Air Innovations Website](#)

NACAA GLOBAL WARMING CONFERENCE

"Defining The Role of States and Localities in Federal Global Warming Legislation"

February 12-13, 2008
Arlington, VA

[Click here](#) for information and to register.

CRITERIA POLLUTANTS, AIR QUALITY CONTROL REGIONS, & NONATTAINMENT AREAS

Criteria Pollutants (CP) are regulated under the National Ambient Air Quality Standard (NAAQS)

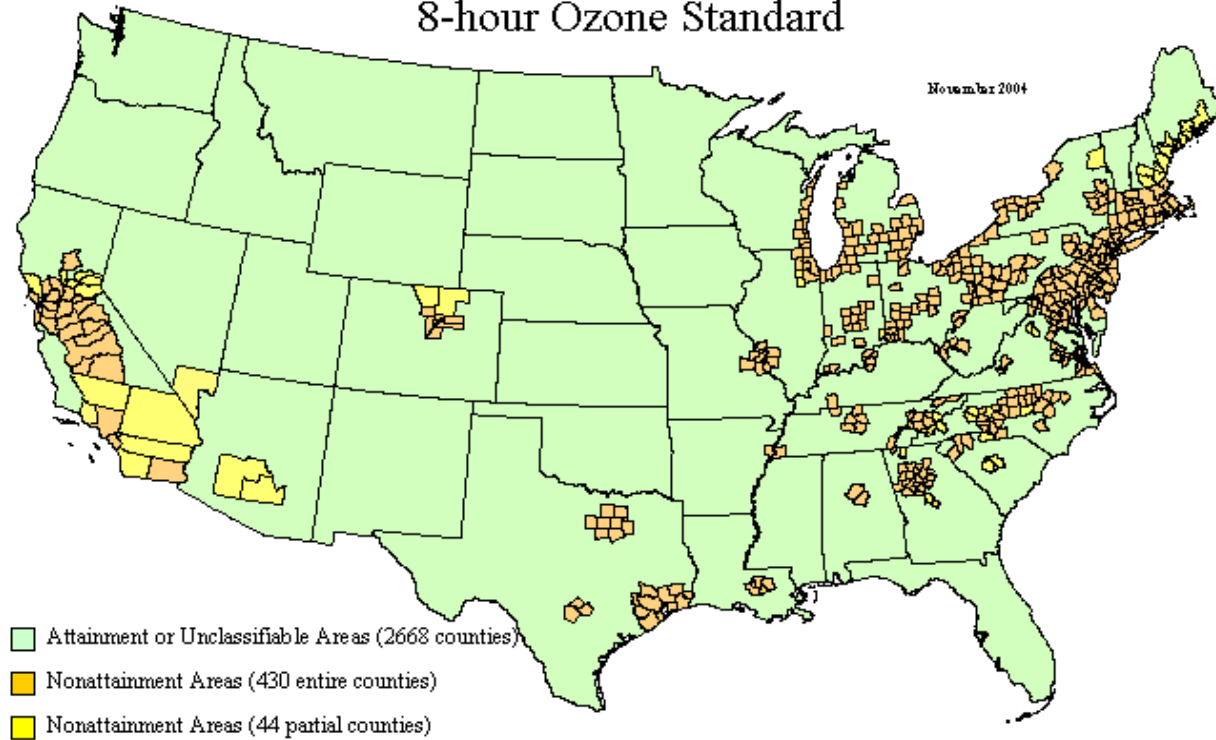
ozone [O₃],
lead [Pb],
sulfur dioxide [SO₂],
particulate matter [PM₁₀ and PM_{2.5}],
carbon monoxide [CO], &
oxides of nitrogen [NO_x].

Primary sources for CP are motor vehicles and fossil fuel burning.

Air Quality Control Regions (AQCR) where CP levels exceed NAAQS are called nonattainment areas

NONATTAINMENT AREAS

Attainment and Nonattainment Areas in the U.S.
8-hour Ozone Standard



AFFECTS ON THE ASPHALT INDUSTRY

Hot Mix Asphalt Plants were de-listed by the EPA as major sources of CP's in 2001

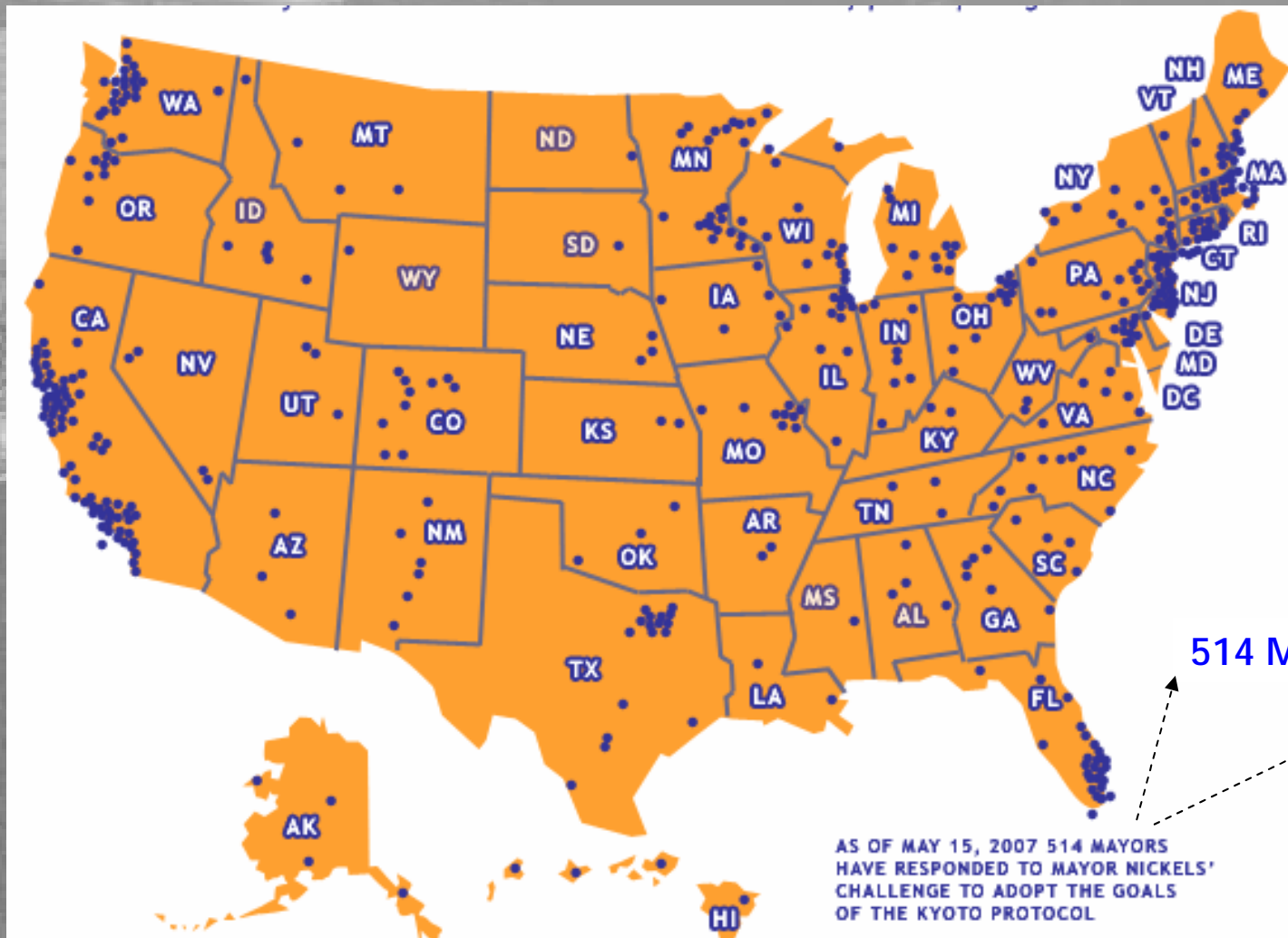
Other stack emission concerns persist: CO₂, VOC's,

Job site emissions persist also in the form of fumes, odors, and smoke from the HMA

Construction vehicles themselves contribute to the job site emissions

KYOTO INTERNATIONAL LAW ON CO₂

KYOTO LAW



ACTIVISM AND LEGAL ACTIONS

PLAINTIFFS

Friends of the Earth

Greenpeace

Environmental Defense Society

Center for Biological Diversity

Activist community groups

DEFENDANTS

National & local
governments

Canadian Kyoto Protocol
Compliance Comm.

California Water Quality Board

Private companies

These are typical parties involved in North American activism, but legal actions to leverage the GHG issue are pervasive globally.

FOCUS ON OZONE TRANSPORT COMMISSION

WHAT IS THE OZONE TRANSPORT COMMISSION (OTC)

WHAT IS THEIR REGULATORY ROLE AND PROCESS

WHY WAS THE ASPHALT EMULSION MANUFACTURERS ASSOCIATION INVOLVED APPROACHED

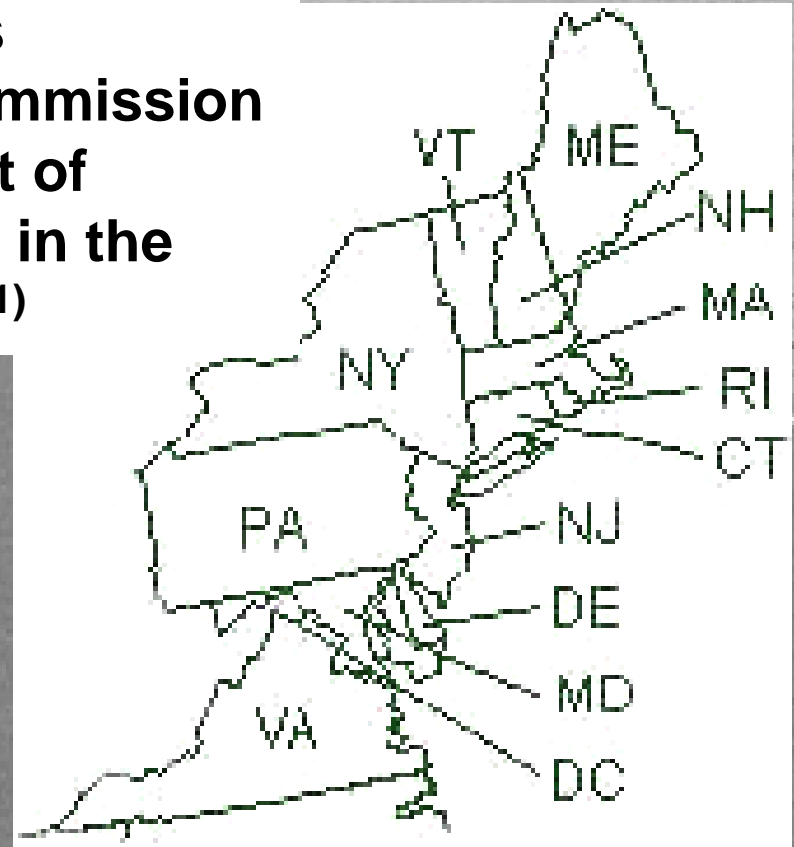
WHAT WAS THE OUTCOME OF AEMA INTERACTIONS

IMPACT ON ASPHALT EMULSION – FINAL DECISION

WHAT IS THE OTC

OZONE TRANSPORT COMMISSION (OTC)

The 1990 Clean Air Act Amendments established the Ozone Transport Commission (OTC) to coordinate the development of control plans for ground-level ozone in the Northeast and Mid-Atlantic Region. ⁽¹⁾



OTC REGULATORY ROLE AND PROCESS

Through meetings with state agencies and the U.S. EPA, targets for reduction in ozone-contributors are established. Engineering consultants may be used for data generation.



Industry and other Stakeholders are consulted regarding the targets (e.g., AEMA re VOC's in asphalt emulsions).



Recommendations are made to the states regarding the targeted industries and targeted emissions reductions.



States work with industries to adopt measures, tailor measures for their state needs, and establish compliance levels.

OTC WEBSITE: www.otcair.org



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OTC Team



Christopher Recchia

Executive Director
Phone : (202) 508-3840
Email : crecchia@otcair.org

Anna Garcia

Deputy Director
Phone : (202) 508-3815
Email : agarcia@otcair.org

Doug Austin

MANE-VU Senior Program Manager
Phone : (202) 508-3827
Email : daustin@otcair.org

Seth Barna

OTC Program Manager
Phone : (202) 508-3812
Email : sbarna@otcair.org

Kromeklia Bryant

Office Administrative Assistant
Phone : (202) 508-3840
Email : kbryant@otcair.org

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Phone : (202) 508-3827
Email : daustin@otcair.org

Seth Barna

OTC Program Manager
Phone : (202) 508-3812
Email : sbarna@otcair.org

Kromeklia Bryant

Office Administrative Assistant
Phone : (202) 508-3840
Email : kbryant@otcair.org

Conference call organizer & head of the working group that made recommendation on reductions to OTC Board.



Meetings

Total Documents **27** Page **1** of **3**

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2007

- OTC Special Meeting - March 2, 2007 Washington, DC
 - Agenda Coming soon!
 - [Registration information & form](#). Guests - a fee is involved

- [NYC and Philly](#) NOx Mass combo chart

- OTC/RTO/ISO Meeting July 28, 2006

- [Agenda](#)
- [Presentation](#) Alexander, B.
- [Presentation](#) Brownstein, M.
- [Presentation](#) Diem, A.
- [Presentation](#) Henderson, M.
- [Presentation](#) Miller, P.
- [Presentation](#) Sedano, R.
- [Presentation](#) Sullivan, B.

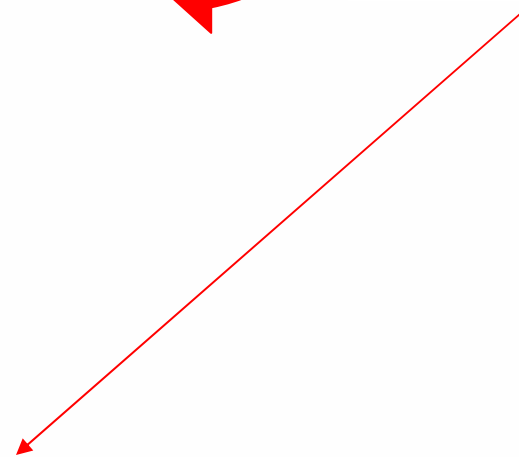
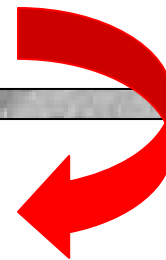
- OTC Annual Meeting June 6-7 - Boston, MA

- [Agenda - Final](#)
- [Presentation](#) Barbara Kwetz, Massachusetts
- [Presentation](#) Robert Sliwinski, New York
- [Presentation](#) Chris Salmi, New Jersey
- [Presentation](#) Tad Aburn, Maryland
- [Formal Action](#) Resolution 06-02
- [Formal Action](#) Resolution 06-03
- [Formal Action](#) MOU
- [Formal Action](#) Statement on EGU's

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**SCROLL DOWN
TO JUNE 6-7 MTG,
FORMAL ACTION
RESOLUTION 06-02**





**RESOLUTION 06-02 OF THE OZONE TRANSPORT COMMISSION
CONCERNING COORDINATION AND IMPLEMENTATION OF
REGIONAL OZONE CONTROL STRATEGIES FOR CERTAIN SOURCE
CATEGORIES**

THEREFORE, BE IT RESOLVED that the OTC member states will continue to work with interested stakeholders and pursue as necessary and appropriate state-specific rulemakings or other implementation methods to establish emission reduction percentages, emission rates or technologies as appropriate, that are consistent with the guidelines included in the table below:

Source Category	Emission Rate	% Reduction
Asphalt Paving	(% VOC limit)	(from 2009 base)
Cutback	4	20
Emulsified	4	20
Asphalt Plant	(lbs NOx/ton)	
Major Sources		
Batch Mix Plant – Natural Gas	0.02	35
Batch Mix Plant – Distillate Oil/Waste oil	0.09	35
Drum Mix Plant – Natural Gas	0.02	35
Drum Mix Plant – Distillate Oil/Waste oil	0.04	35
Minor Sources		
Batch or Drum Mix Plant – Natural Gas	Low NOx Burner Technology	
Batch or Drum Mix Plant – Distillate Oil/Waste oil	Low NOx Burner Technology	



RESOLUTION 06-02 OF THE OZONE TRANSPORT COMMISSION
 CONCERNING COORDINATION AND IMPLEMENTATION OF
 REGIONAL OZONE CONTROL STRATEGIES FOR CERTAIN SOURCE
 CATEGORIES

The 20% reduction had been decided in June '06, although industry input did not begin until Sept. '06.

THEREFORE, BE IT R
 continue to work with int
 and appropriate state-s
 methods to establish em
 technologies as approp
 included in the table below:

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 necessary
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 guidelines

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Minor Sources		
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Batch or Drum Mix Plant – Distillate Oil/Waste oil	Low NOx Burner Technology	

oil



OZONE
TRANSPORT
COMMISSION

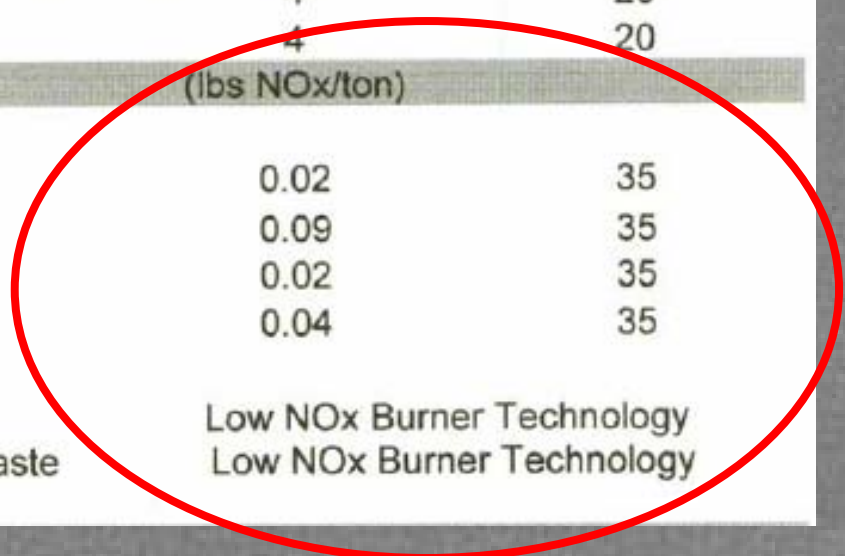
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**Low-NOx burner issues
initiatives were created by
the OTC in early 2006.**

**The National Asphalt Paving
Association's environmental
team led the Industry's
response**

Source Category		Production
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Minor Sources		
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ONE EXAMPLE OF STATE IMPLEMENTATION OF OTC RECOMMENDATIONS

Connecticut was the first state to initiate the OTC's solvent reduction recommendation for asphalt emulsions.

Local asphalt users/producers/contractors led the response along with Asphalt Emulsion Manufacturers Association

- meetings, phone conversations, technical reports

CT DEP raised the limits on volatiles in emulsions from 0.5 mL per 200 grams of emulsion to 6 mL per 200 grams (ASTM D 244).

FUTURE WORK: PREPAREDNESS & ORGANIZATION

Regulatory agencies abound

Regulations & compliance processes are complex

Concerted responses by industry members are required to work effectively with regulatory bodies

Utilize industry resources

**state asphalt associations,
National Asphalt Paving Association,
Asphalt Institute,
AEMA, ARRA, ISSA, & FP²**

EXAMPLES OF THE COSTS OF COMPLIANCE

Emissions monitoring and compliance

Diesel truck engines meeting US emission standards can cost 50% more than non-compliant units

Low-NOx burner (LNB) technology for HMA plants

\$100,000 to \$200,000 for the LNB unit
(+ \$400,000 for baghouse upgrade)

Alternative technologies

Warm mix technologies add \$2-3 per ton of mix

QUESTIONS?