MeadWestvaco

Ozone Transport Commission Update

Regulations on Volatile Organic Compound Emissions from Asphalt Emulsions

Presentation of the ITC to AEMA, ISSA, ARRA Meeting

San Jose del Cabo, Mexico, 20 February 2008

Outline

- Changing regulatory landscape regarding air quality & volatile organic compounds (VOC's)
- AEMA interaction with Ozone Transport Commission (OTC)
- International Technical Committee reaction to OTC
- Connecticut Department of Environmental Protection
- ITC Response to the CT DEP action
- Summary: new business opportunities

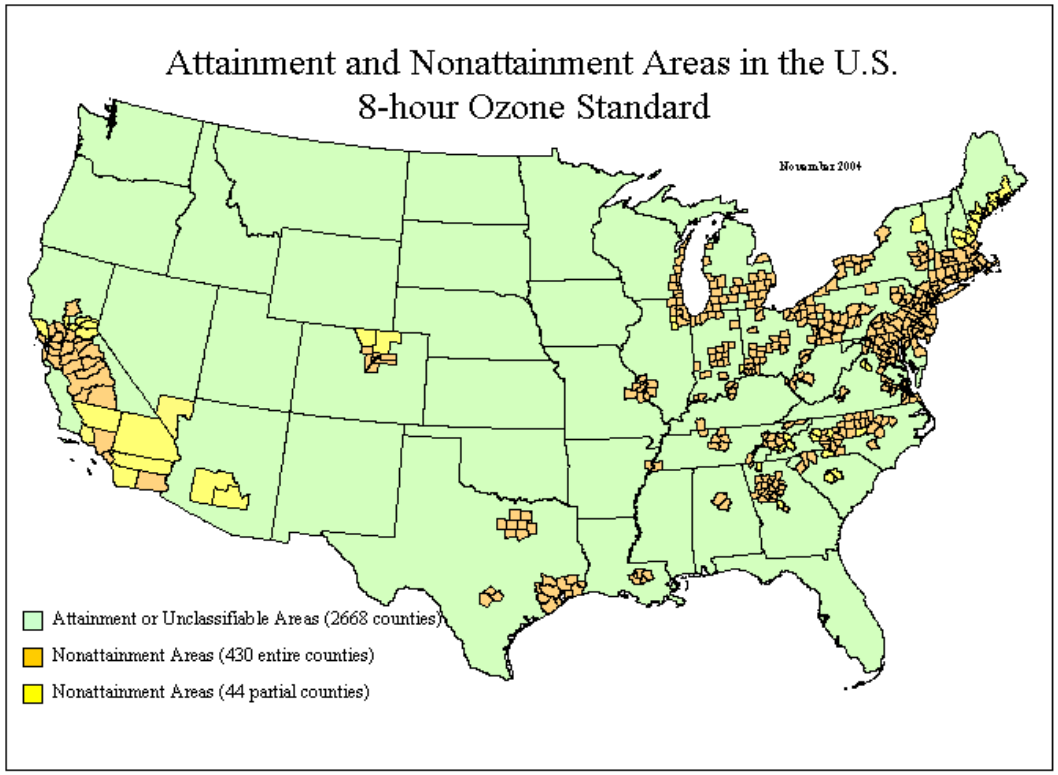
Regulations & Volatile Organic Compounds (VOC's)

Regulation goals: improve air quality & human health

- Abundant research has correlated air quality with human health
- Non-attainment zones within the U.S.
- Clean Air Act of 1990 mandated regulatory agencies: OTC, MRPO, CARB, state EPA's, etc.
- Ozone Transport Commission: 14 Mid-Atlantic and New England states

Air Quality Initiatives Strengthen Annually

Non-Attainment Zones in USA



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State, Regional, & Municipal Air Quality Agencies

Within the California EPA, and the
CA Air Resources Board, there are 35 Regional Air Quality Districts

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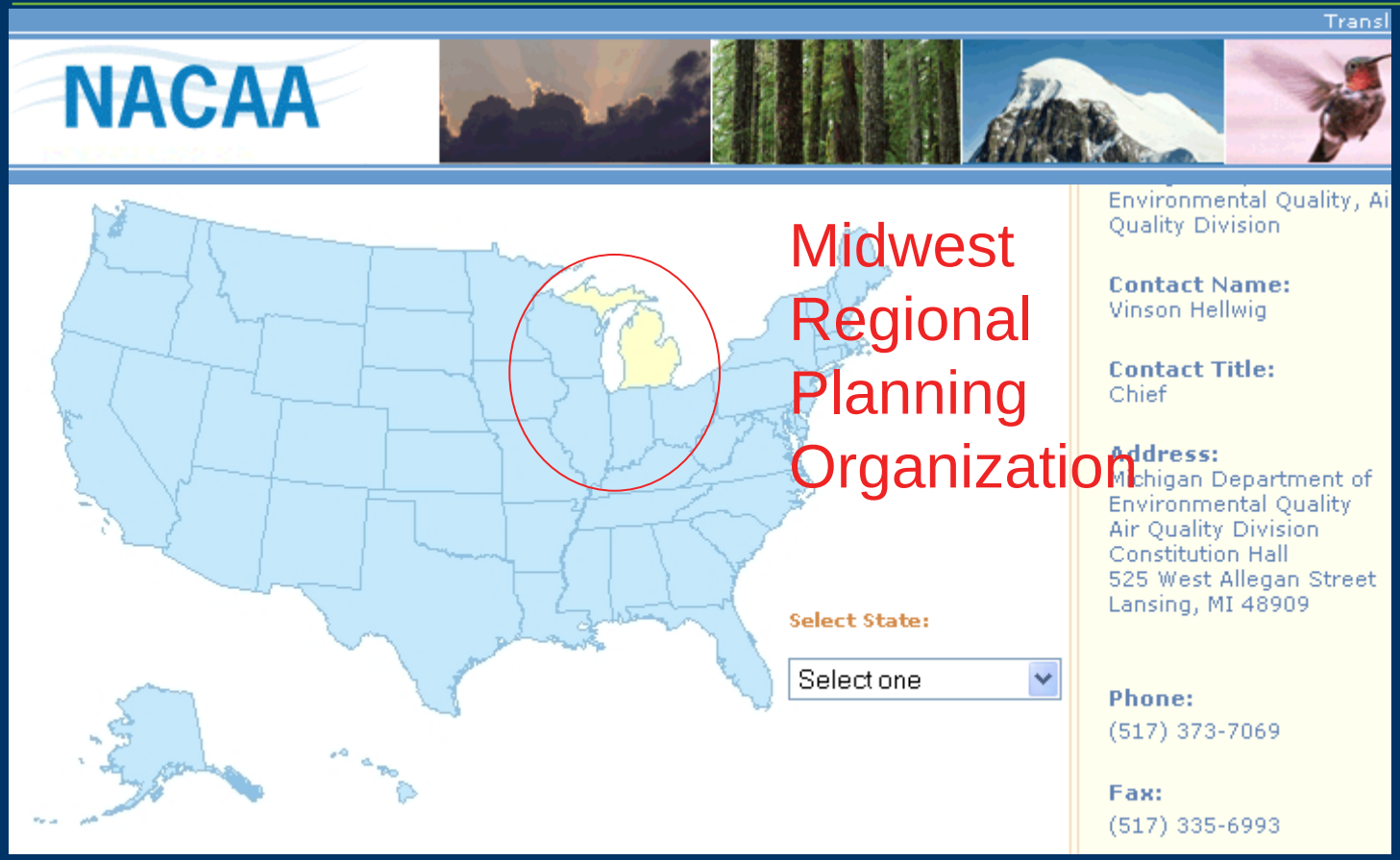
National Association of Clean Air Agencies (NACAA)

Air Quality Initiatives Strengthen Annually

Midwest Regional Planning Organization



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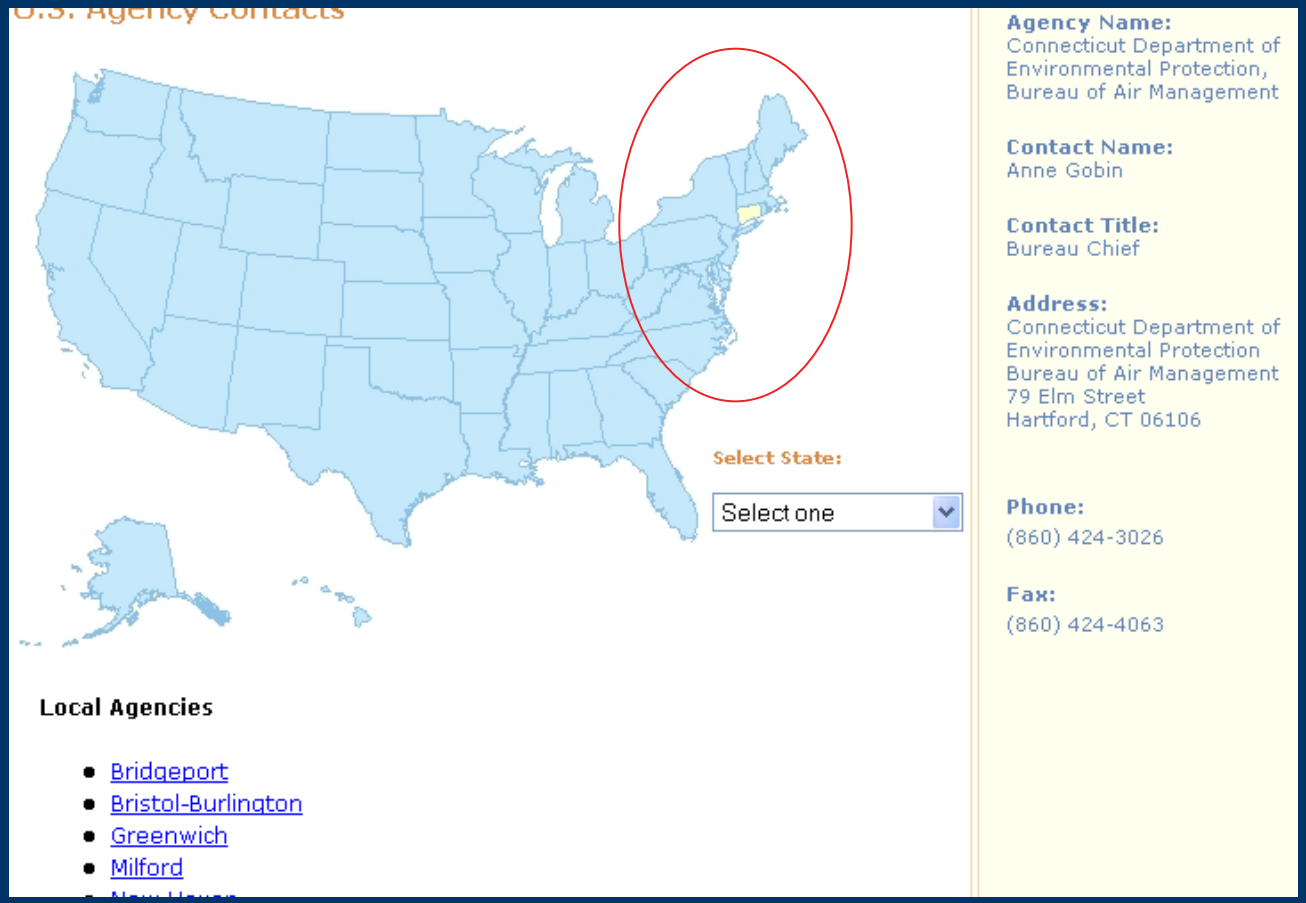
Ozone Transport Commission



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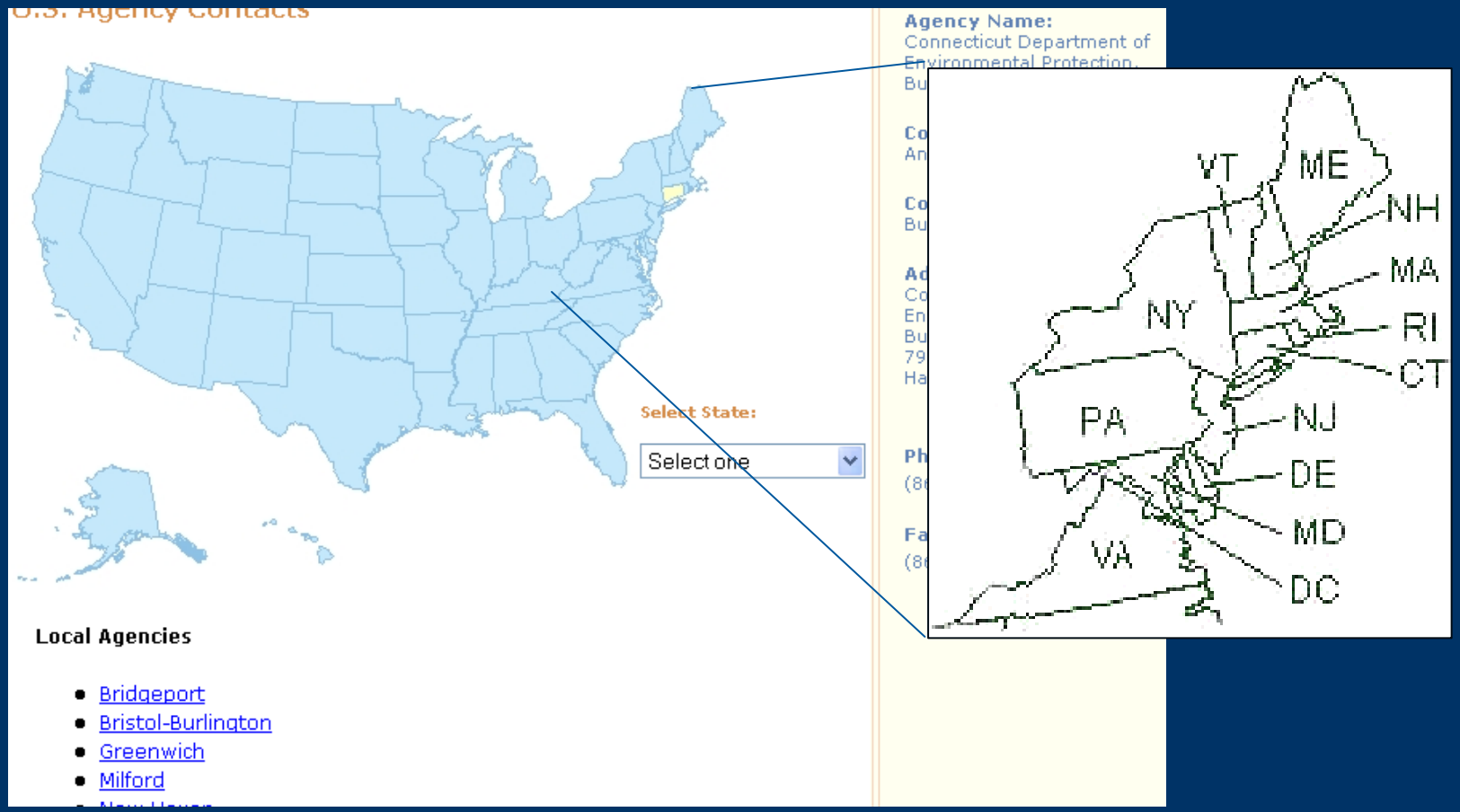


AEMA-OTC Interactions

History of Interaction & Reactions of the AEMA-ITC

- Sept. 2006: OTC contacted AEMA about “banning” solvent use in cutbacks & asphalt emulsions
- International Technical Committee contacted OTC: education on emulsions & applications, data sharing
- Nov. 2006: OTC recommended 20% across-the-board reduction in solvents for all emulsions
- OTC Board forwarded the recommendation to the 13 member States
- Lesson: proactive initiatives needed to assist regulators in understanding stakeholder issues

CT DEP 2007 Objective: ozone/smog reduction

- CT regulatory legislation targeted cutbacks & asphalt emulsions
- Goal: <0.5 g distillate in 200 mL emulsion (ASTM D 244)
- ITC reaction: 1) membership VOC data, 2) lab eval's, & 3) formal letter of concern to CT DEP
- Naphtha, kerosene, & diesel from emulsion films
- Naphtha, kerosene, & diesel from compacted mixes
- Outcome: CT allows 6 mL distillate via D 244

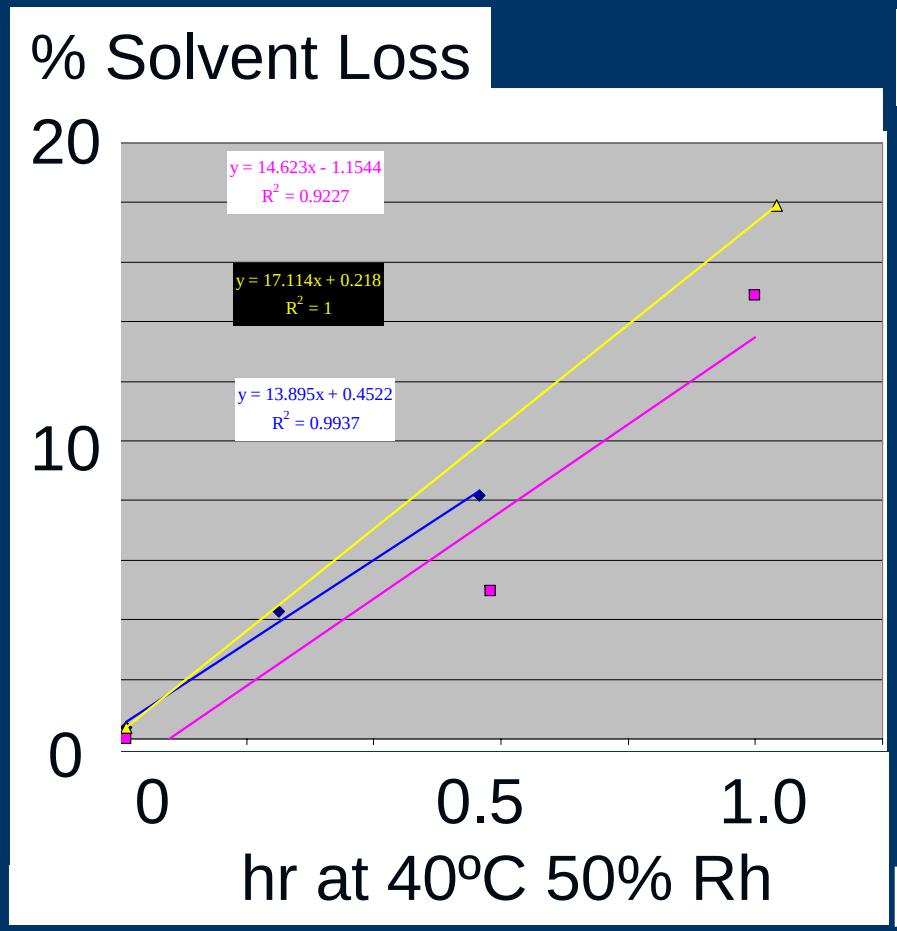
ITC Reaction to CT DEP Regulation

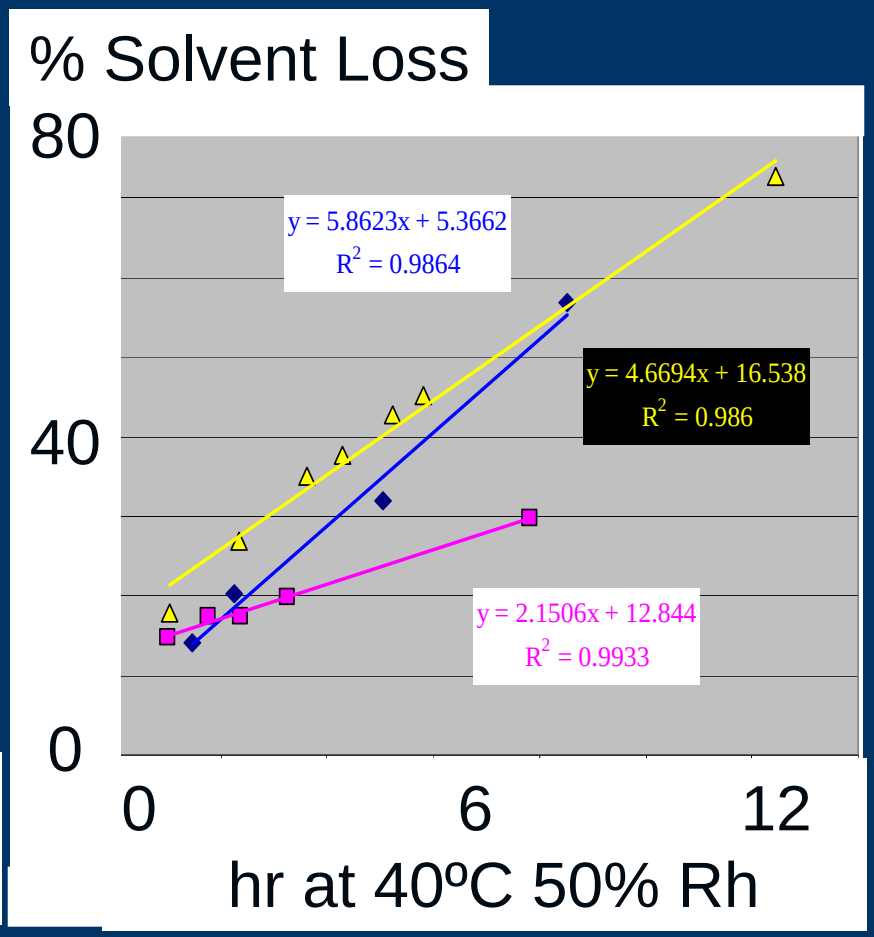
Membership input on actual VOC usage

- OTC reported roughly 27 tons VOC in asphalt emulsions per day during the ozone period in the OTC region
- Membership data in CT & bordering states indicated 2.9 tons per day (OTC data not out of line)
- Membership reported primary uses: CRS, CMS, & HFMS applications

ITC Reaction to CT DEP Regulation

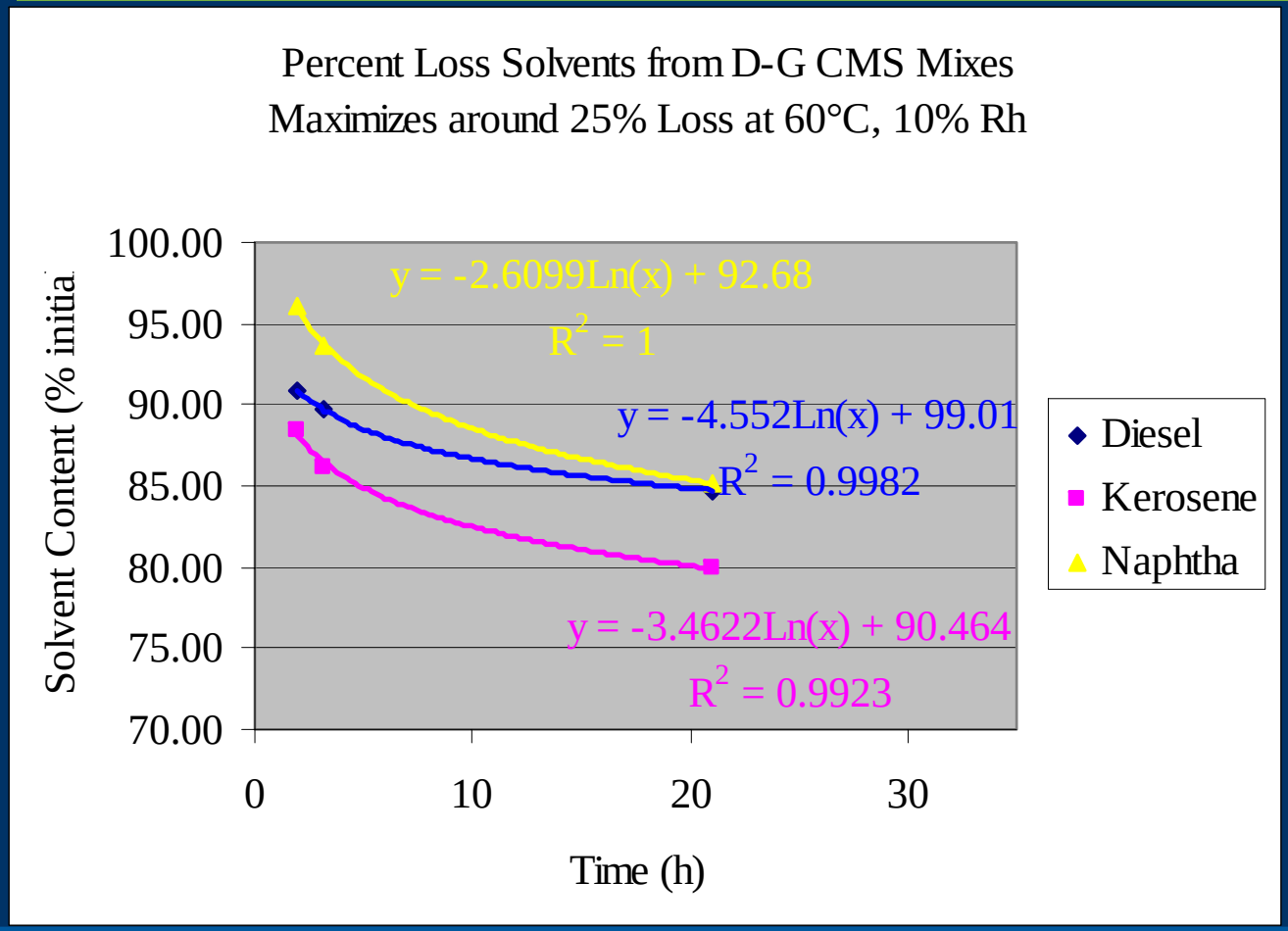
Laboratory Data on VOC Emissions: Thin Films





ITC Reaction to CT DEP Regulation

Laboratory Data on VOC Emissions: Dense Mixes



ITC Reaction to CT DEP Regulation

AEMA Issues Letter to CT DEP & Meeting Attendance

- AEMA summarized results in formal letter to CT DEP
- Membership attended open meetings of CT DEP to address the pending changes in VOC emissions regulations
- Outcome: CT DEP granted allowance for 6 mL of distillate in 200 mL of asphalt emulsion via ASTM D 244 (500ºF distillation)

Summary

Next Steps for the Asphalt Emulsion Industry

- Facts: regulatory restrictions will increase
- Facts: some phase out of current technologies is likely
- Facts: regulatory agencies are interested in finding sustainable solutions
- Balancing economic growth & EHS issues is achievable via membership interaction with agencies
- View regulations as a business opportunity rather than business burden