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EH&S Challenges Facing the Asphalt Pavement industry

Presentation Overview

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- NAPA partners
- Overview of NAPA's EH&S program
- Health & Safety issues
- Environmental issues
- Upcoming events
- Questions

NAPA and NAPA Partners

- NAPA / SAPA relationship
- Incoming Chairman
- Priorities
  - Highway Funding
  - Competition with Concrete
  - Regulatory Issues
  - Sustainability
  - Membership

NAPA EH&S Program

- **Two Committees:**
  - **Health & Safety**
  - **Environmental**
- **Environmental Survival Fund**
  - **EPA Delisting**
  - **Fumes Issue**
- **Ongoing Compliance Assistance**
- **Regulatory and Legislative**
- **An extension of your EH&S staff**

Crystalline Silica Rule

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- Known hazard
- Top priority of OSHA
- Draft Rule issued
  - Respirators required during roadway milling
  - We have a better solution
  - Participated in all aspects of rulemaking process
- Milling Machine Partnership

Milling Machine Partnership

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- Agency-Labor-Industry Partnership
- 10 years of dust control verification
- New Machines (starting 2017): vacuum & spray systems
- Existing machines (up to 5 yrs old): retrofit spray made avail.
- NIOSH to publish guidance: systems will meet Standard
- No milling respiratory protection; checking other activities

Ancillary Equipment: Understand Exposure

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Updating (M)SDSs

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* * * Section 2 - Hazards Identification * * *

GHS Classification:

Acute Toxicity Oral - Category 3
Skin Corrosion/Irritation - Category 1B
Eye Damage/Irritation - Category 1
Skin Sensitization - Category 1
Carcinogenicity - Category 1A
Toxic to Reproduction - Category 2
Specific Target Organ Toxicity Single Exposure - Category 2
Specific Target Organ Toxicity Repeat Exposure - Category 2
Hazardous to the Aquatic Environment Acute - Category 3
Hazardous to the Aquatic Environment Chronic - Category 3

GHS LABEL ELEMENTS

Symbol(s)

Signal Word

Danger

Hazard Statements

Toxic if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May cause cancer.
Suspected of damaging fertility or the unborn child.
May cause damage to organs . . .
Harmful to aquatic life with long lasting effects.

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Harmful to aquatic life with long lasting effects.

- Requires standardizing and updating SDSs by June '15
- Warnings are front-and-center
- (M)SDSs typically used by activists to generate concern
- Opportunity for industry to address product hazard
- Prelim. analysis: "non-labeled"
- Consistent hazard language
- Developing guidance

WZS: intrusion prevention

- More than 37,000 WZ crash injuries annually & 600+ fatalities
- Most relevant to asphalt paving operations on live lanes
- State DOTs have authority / means to implement protection but associated cost / payment and public egress is an issue
- NAPA & stakeholders developing best practices with FHWA
- NAPA Care Fund

Safety Benchmarking

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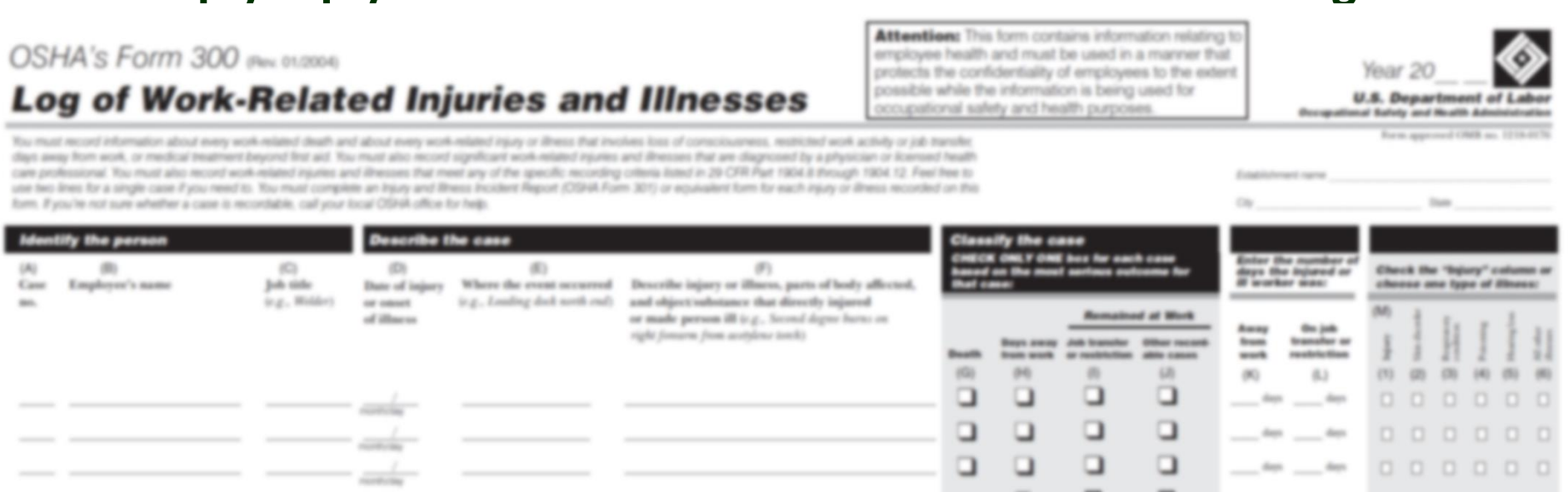
- OSHA 300 logs required for worksite / job injuries
- OSHA pushing for electronic reporting & Suppl. Rule
  - 2015 changes include mandatory reporting of hospializations
- NAPA continues to request Member information
- 2012 rate at 2.9 injuries per 100 FTE (one-third reporting)
  - vs. 4.4 for general highway construction
- Focus on causation & prevention best practices
  - Slips/trips/falls & over-exertion with material handling



OSHA's Form 300 (Rev. 01/2004)

Log of Work-Related Injuries and Illnesses

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

Year 20 __ __

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

You must record information about every work-related death and about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid. You must also record significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional. You must also record work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR Part 1904.8 through 1904.12. Feel free to use two lines for a single case if you need to. You must complete an Injury and Illness Incident Report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure whether a case is recordable, call your local OSHA office for help.

Establishment name _____

City _____ State _____

Identify the person

(A) Case no. | (B) Employee's name | (C) Job title (e.g., Welder)

Describe the case

(D) Date of injury or onset of illness | (E) Where the event occurred (e.g., Loading dock north end) | (F) Describe injury or illness, parts of body affected, and object/substance that directly injured or made person ill (e.g., Second degree burns on right forearm from acetylene torch)

Classify the case

CHECK ONLY ONE box for each case based on the most serious outcome for that case:

(G) Death	(H) Days away from work	(I) Remained at Work: Job transfer or restriction	(J) Remained at Work: Other recordable cases
☐	☐	☐	☐
☐	☐	☐	☐
☐	☐	☐	☐

Enter the number of days the injured or ill worker was:

(K) Away from work	(L) On job transfer or restriction
____ days	____ days
____ days	____ days
____ days	____ days

Check the "Injury" column or choose one type of illness:

(M) Injury	(1) Skin disorders	(2) Respiratory conditions	(3) Poisoning	(4) Hearing loss	(5) All other illnesses	(6)
☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐

Trucking "Hours of Service" (HOS)

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- Electronic logging proposal
- "Short Haul" exemption to 30-min mandatory break
  - NAPA / stakeholders successful in bid to remove break
  - 100 air-mile radius: start & return w/in 12 hrs
  - 10 consecutive hrs off duty
  - Adhere to other FMCSA regs and record log when need

Greenhouse Gas Regulations

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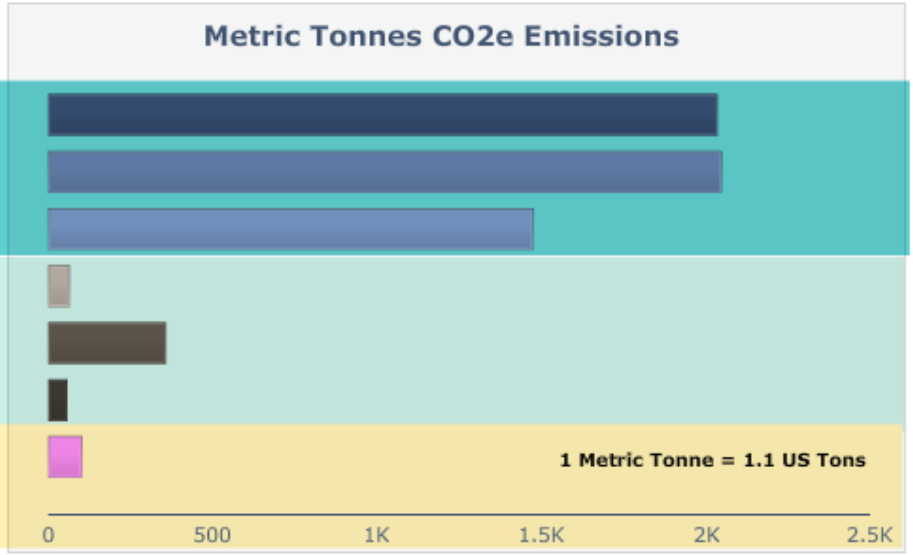
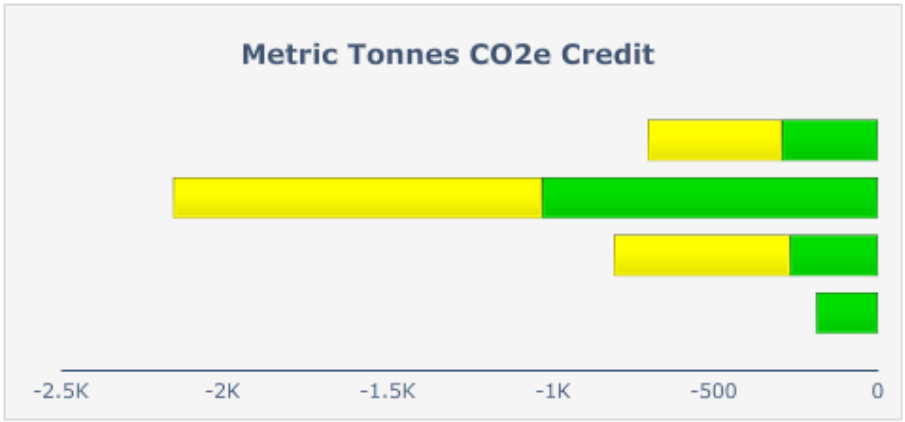
- Climate Change and CO_2 Reduction
  - Transportation sector is a large CO_2 contributor
  - EPA regulating larger sources (e.g., Power Plants) now . . .
  - "Cap-and-Trade" . . . not yet at federal level
- Some state GHG reporting required for asphalt mix plants
  - NAPA's GHG Calculator is useful
  - Recognizing "carbon credit" for certain practices
- Concrete industry advocates pavement deflection / reflectivity
  - NAPA responding with valid science

Company	Location	Actual CO2e Emissions and Credits	Print	Reset

Year	Mix Produced (Tons)	300,000

Plant Combustion	Fuel Oil (Gal)	200,000
	Recycled Oil (Gal)	200,000
	Natural Gas (DTH)	27,800
Plant Equipment & Vehicles	Gasoline (Gal)	7,500
	Diesel Fuel (Gal)	35,000
	Propane (Gal)	10,000
Line Power (kWh)	Pennsylvania	200,000



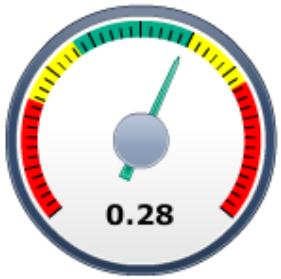


Credits

	Average		Tons	% Mix	Target %
WMA	270	Mix oF	100,000	33.3	80
RAP	4.6	% AC	50,000	16.7	35
RAS	18	% AC	5,000	1.7	5
Fuels					

Reportable	Tonnes CO2e	Percent of Total	Lbs CO2e/Ton Mix
Plant Combustion	5,561	90.4%	40.9
Equipment & Vehicles	483	7.9%	3.6
Electric	104	1.7%	0.76
Less Credits	-1,487	-24.2%	-10.9
Net CO2e	**4,662**		**34.3**

MMBTU/Ton Mix



Verify accuracy of Plant Fuel data if value is outside the Green Zone

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Waters of the US . . .

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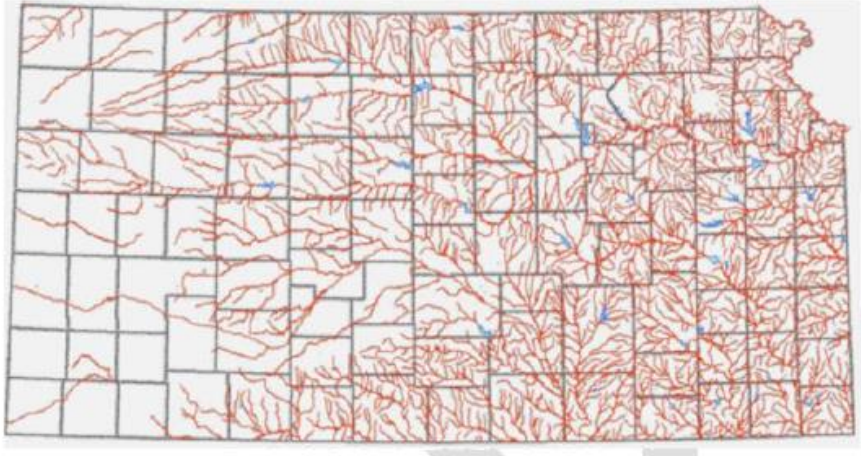
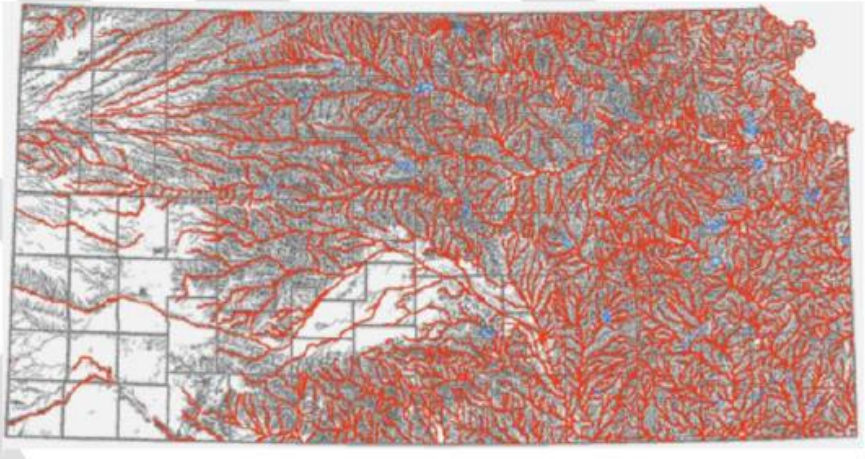
- Real potential for asphalt plant impact
  - certainly quarries
- House voted to limit EPA's authority
- NAPA working with stakeholders





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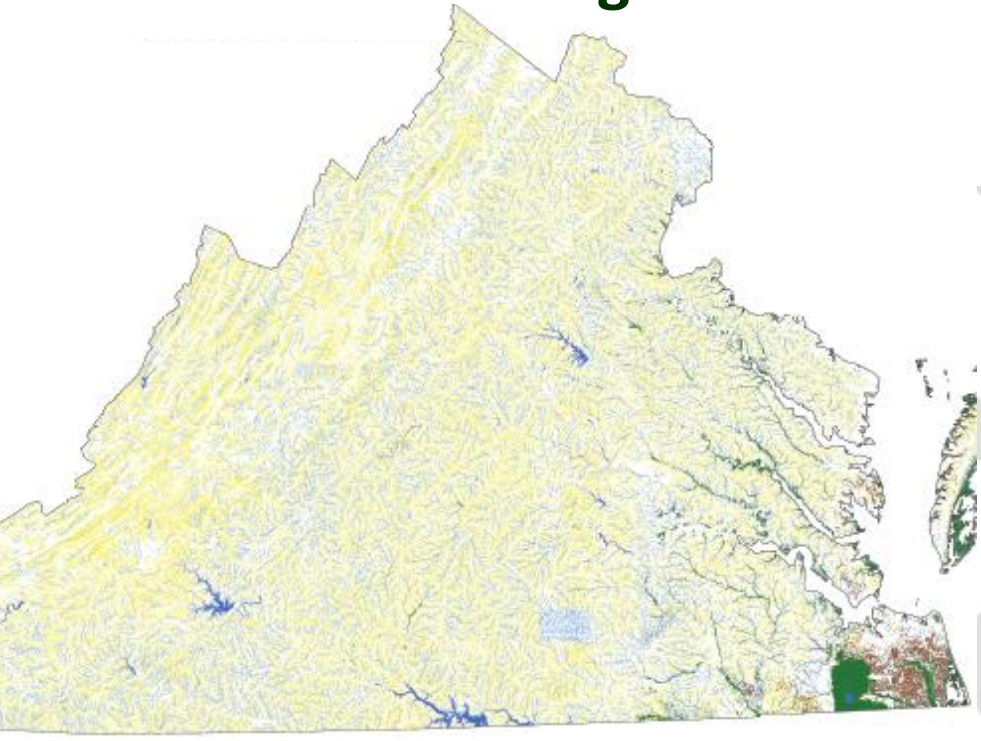

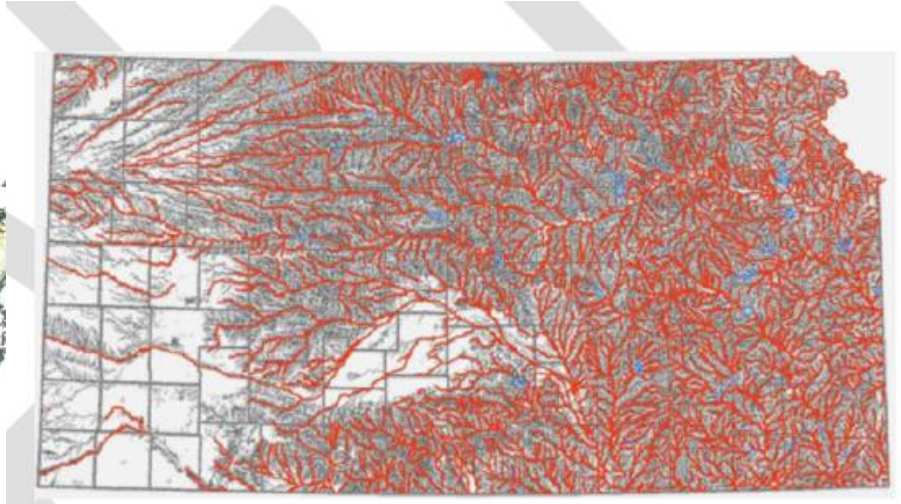

Spill prevention (SPCC) and petrol. storage

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- NAPA provides guidance on writing SPCC plans
- Additional guidance on asphalt tank inspections forthcoming
  - Risk characterization to set formal evaluation frequency
  - Inspector "qualifications"
- Understand what is being stored on property
  - asphalt rejuvenators
  - Anti-strips
  - WMA modifiers

Green Construction Codes

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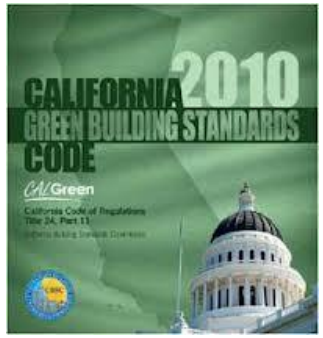
- Alphabet soup is here to stay even though process broken



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Green Construction Codes

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- Alphabet soup is <u>here to stay</u> even though process broken
- Affecting product selection decisions now
  . . . and more into the future
- Calif. probably more aware than others
- Concrete industry advocating pavement deflection / reflectivity

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U.S. GREEN BUILDING COUNCIL
LEED CERTIFIED
USGBC

- NAPA working to dispel myths and promote real science
  - Life cycle assessment and Env. Product Declarations
  - Contact Heather Dylla, Dir. Sustainable Engineering

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Community Activism

- Perception vs. reality
- Addressing community concerns
- RAP, leachate, emissions
- Community open houses
- Tours for elected officials
- NAPA brochures

The Environmental Impact of Asphalt Plants

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Hundreds of communities across the country coexist peacefully with asphalt plants. These facilities are in urban, suburban, and rural areas, and most of them are known as good neighbors who are engaged with their community and dedicated to sustainable operations.

However, there is a lot of misleading and often daunting information about asphalt plants and asphalt products. Therefore, it's important to understand what's fact, what's fiction, and what the differences are between different types of asphalt products.

As with any industrial facility, it's helpful to understand what happens behind the gates at an asphalt plant. This paper provides basic information about what happens at an asphalt plant including how it impacts your neighborhood, the community, and the environment.

Well Regulated by the U.S. EPA

Asphalt plants, or more accurately asphalt pavement mixing facilities, are industrial operations that mix liquid asphalt binder (also called asphalt cement) with crushed rock, gravel, and sand (collectively called aggregates) to make pavement. Asphalt binder, the glue that binds the aggregates together, is one of many distilled products obtained from the oil refining process. Similar to other refined oils, such as lubricating oils, asphalt binder is processed to meet defined standards. Some mixes also require additives, which can range from chemicals that improve mix performance to natural fibers that strength specialty mixes. The use and storage of these materials is carefully monitored and regulated.

Asphalt pavement mixing facilities are well-regulated by federal and state environmental agencies, and they employ multiple emission control systems. The small amount of emissions released from these control systems are closely monitored to ensure they stay well below any permitted level set by the U.S. Environmental Protection Agency (EPA) and other regulators to ensure that they pose no health or environmental risk to nearby communities.

In fact, over a decade ago, the EPA reviewed emissions from asphalt plants and determined that such facilities are not a major source of air pollution and were subsequently delisted by the agency.[1] Subsequent studies by various regulatory agencies have verified that emissions from asphalt pavement mixing facilities do not present an environmental or public health hazard.

Emissions — Very Low and Getting Lower

The majority of emissions at asphalt mixing facilities come from the combustion of fuel, such as natural gas, that are used to dry and heat the rock or aggregate and to keep the temperature of the asphalt hot. Most of the other potential emissions, such as the dust gener-

Upcoming NAPA meetings

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NAPA Annual Meeting: January 25-28, Marco Island FL

- Session on Regulatory Issues
- EH&S Committees meet

World of Asphalt: March 17 -19, Baltimore MD

- EH&S Compliance Workshop
- Work Zone Safety Conference
- Milling Machine Partnership Recognition

TCC Legislative Fly-In: April 14-15, Washington DC

Questions and Thank-you

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