

***Industry EH&S:  
Looking through the windshield***

**Howard Marks  
NAPA Vice President -  
Environment, Health & Safety**



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# Relaxed EH&S regulations



## Relaxed EH&S regulations

- **A few years of regulatory relief might be double-edged**
  - Potential apathy toward compliance
  - Advantageous energy costs
  - Static air and water requirements
- **Agencies focused a bit more on outdated regulations**
  - Removed many from the books
  - Fine-tuned / revised others
    - ✓ FMCSA HoS as industry example



*The new reality starts NOW!*



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# *The new reality starts NOW!*

- **Executive and Legislative Branches are primed**
  - Potentially two years of (aggressive) activity
  - Litigation will likely be used to “slow-the-roll”
  - Ex Orders and Agency Rulemaking
- **Three major EH&S focus areas**
- **Impact to the industry**



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- **Three major EH&S focus areas**
  - Carbon reduction
  - Environmental Justice
  - Increased OSHA enforcement
- **Impact to the industry**
  - Manageable



# Carbon Reduction

- The Paris Climate Agreement will set the stage
  - Carbon taxation (producer or user / or both)
- **Carbon reduction can be achieved by:**
  - Renewable/alternative energy sources
    - ✓ Solar/wind – current industry (solar) examples
    - ✓ Purchasing credits
  - Low-carbon & bio-based fuel – (comp)-nat gas (↓ 25%)
  - Longer term: review vehicle fleet fuel
- **Carbon footprints as a comparative tool**





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  - Longer term: review vehicle fleet fuel
- **Carbon footprints as a comparative tool**
  - Cooler mix, higher RAP, bio-binders
  - Check out NAPA's EPD Program

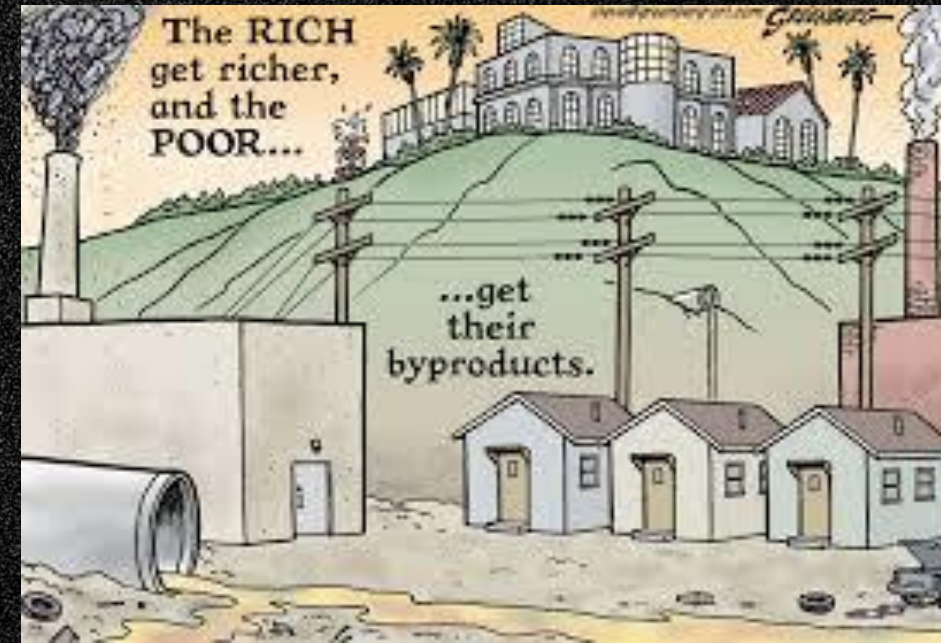


# Environmental Justice

## ➤ Definition

*The fair treatment and meaningful involvement of all people ... [regarding] environmental laws, regulations, and policies .... and will be achieved when everyone enjoys:*

- *Same degree of protection from environmental and health hazards, and*
- *Equal access to ... decision-making process [re] a healthy environment ....*



# Environmental Justice

## ➤ Impacts of Environmental Justice

- Remediating high-density urban emission sources
- Empower communities to influence source siting / ops

## ➤ Community relations become increasingly important

- Good resources available – proactive communication
- NAPA forming Community Relations Task Group
- Get involved



# Pavement-related emissions

- FSU & Yale publish emissions studies
- Picked-up and sensationalized by media
- Both studies hypothesis **sunlight + asphalt → chemicals**
- Both studies use highly sensitive analytical instruments
- FSU infers pavement stormwater leachate impact
- Yale infers air emissions from asphalt pavements are comparable to vehicle emissions



# Environmental – FSU study

sciencealert

Trending



(Victor Lazarov/Unsplash)

## ENVIRONMENT

### The Glue That Holds Our Roads Together Could Become Toxic When Exposed to Sun And Rain

DAVID NIELD 19 JULY 2020

We might have a problem with our roads: researchers have discovered that sunlight and rain might be able to turn certain compounds in asphalt into a potentially dangerous hydrocarbons, threatening the surrounding environment and people using these routes.

## **FSU – science is on industry's side**

- **NAPA- / SAPA-sponsored industry Univ. of Fla. study**
  - ✓ **Decades of positive (minimal leachate) research findings**
    - **But individual exceedances do exist**
  - ✓ **Univ. of Fla. ran exceedances through EPA risk model**
    - **Leachate concentrations are well-below risk thresholds**
- **AI-sponsoring Heritage Research study**
  - ✓ **Focused on leachate from AC binder itself**
  - ✓ **Will critically review FSU findings**
- **Lab-generated are NOT equivalent to field emissions**

# Environmental – Yale University study



MARKETS

BUSINESS

INVESTING

TECH

POLITICS

CNBC TV



## As Earth overheats, asphalt is releasing harmful air pollutants in cities

PUBLISHED WED, SEP 2 2020•2:00 PM EDT | UPDATED WED, SEP 2 2020•2:20 PM EDT



Emma Newburger  
@EMMA\_NEWBURGER

SHARE

### KEY POINTS

- As the world heats up, cities with heat-trapping asphalt and little tree cover have left residents sweltering and breathing in more air pollution.
- Asphalt is releasing hazardous air pollutants into communities, especially when hit with extreme heat and sunlight, according to new research published in the journal Science Advances.
- Heat and air pollution disproportionately affect poor and marginalized people who are more likely to live in neighborhoods without greenery but abundant with asphalt pavement.



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# Yale – findings & potential consequences

- “ At typical temperature and solar conditions ... common road and roofing asphalts produced complex mixtures of organic compounds, including hazardous pollutants. ” – SA
- “ Researchers found that asphalt .... emitted more ... aerosols in the summer than ... motor vehicles.... ” – CNBC
- Air District implications for controlling VOC emissions

## ➤ Int’l Coalition formed

- ✓ AI, NAPA, EAPA, EB, ARMA, EWA
- ✓ Critical review; dialogue w/ Yale; statement; potential research



The screenshot shows a CNBC news article. The title is "As Earth overheats, asphalt is releasing harmful air pollutants in cities". The author is Emma Newburger. The article includes a "KEY POINTS" section with three bullet points: 1. As the world heats up, cities with heat-trapping asphalt and little tree cover have left residents sweltering and breathing in more air pollution. 2. Asphalt is releasing hazardous air pollutants into communities, especially when hit with extreme heat and sunlight, according to new research published in the journal Science Advances. 3. Heat and air pollution disproportionately affect poor and marginalized people who are more likely to live in neighborhoods without greenery but abundant with asphalt pavement. There is also a small photo of a person kneeling on a road surface.



# *Health & Safety – Biden Admin. policies*

- Unsettled policy / legislation / regulation
- Focus on (increased) enforcement and ETS
- Focus on Health & Safety Program implementation



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  - Construction “Focus Four”: STF, struck-by, caught-between, electrocution; & Silica Rule
  - National COVID standard – likely by Mar. 15
- **Focus on Health & Safety Program implementation**



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- **Focus on Health & Safety Program implementation**
  - While not an OSHA “requirement”, will get play
- NAPA will continue to emphasize silica exposure assessment & Respiratory Protection Programs



# *Silica Rule – Respiratory Protection*

- Road construction activities appear compliant w/ Rule
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  - It will be critical to understand plant activities and potential exposure – especially time-dependent
  - Focus on baghouse and drum maintenance



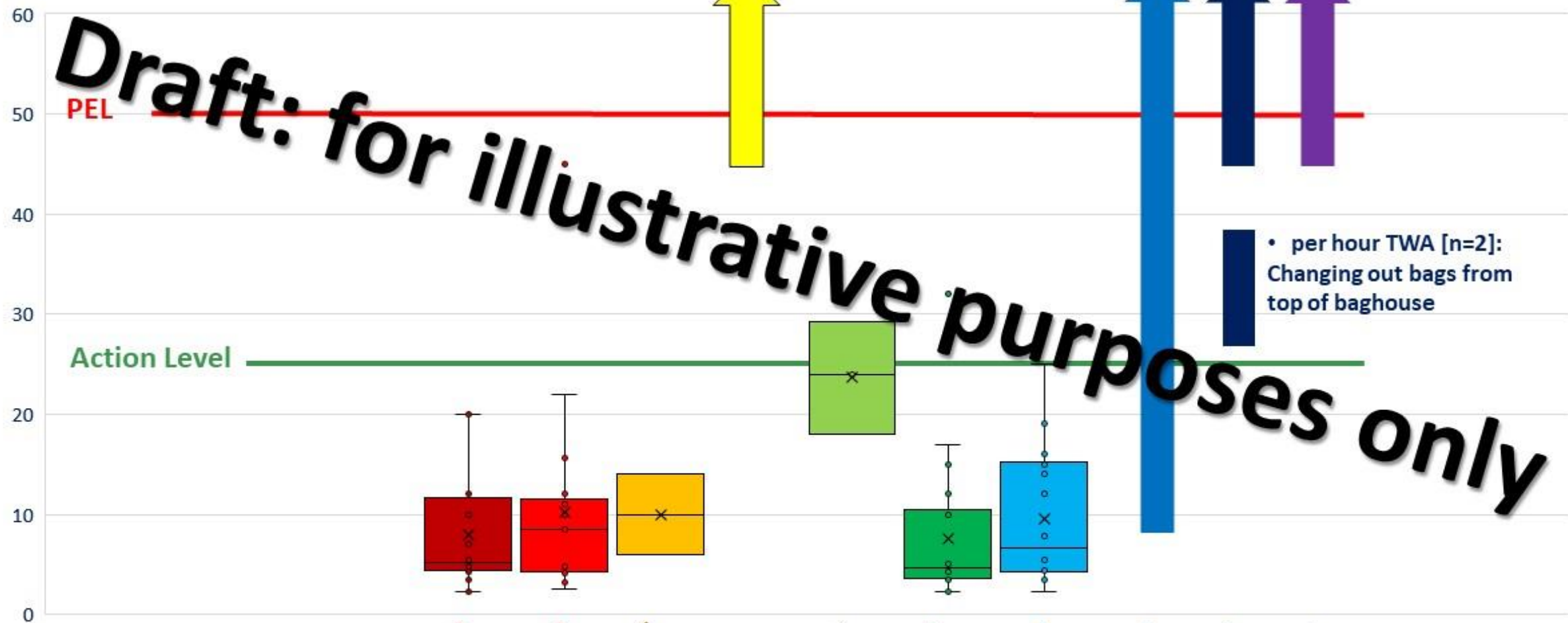
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- Exposure assessment for dusty plant activities needed
  - It will be critical to understand plant activities and potential exposure – especially time-dependent
  - Focus on baghouse and drum maintenance
- Think of exposure control hierarchy:
  - Elimination / substitution
  - Engineering / administrative controls
  - Personal Protective Equipment (PPE)
  - Re-testing requirements .....



# Asphalt Pavement Mix Production Facility Activities

Silica Exposure as 8-hr TWA ( $\mu\text{g}/\text{m}^3$ )



- Values for non-detected exposure were entered at one-half LOD
- Standard Microsoft box-whisker plot identifies all datapoints with outliers / local max / 75<sup>th</sup> percentile / mean / median / 25<sup>th</sup> percentile / minimum

• per hour TWA [n=2]:  
Changing out bags from top of baghouse

**Draft: for illustrative purposes only**



## *Help direct and focus industry efforts*

- EH&S regulatory arena will likely be active
- NAPA Committees are a great way to:
  - *Get involved*
  - *Stay informed*
  - *Make a difference*
    - ✓ Environmental, Health & Safety
      - [hmarks@asphaltpavement.org](mailto:hmarks@asphaltpavement.org)
    - ✓ Sustainability
      - [jshacat@asphaltpavement.org](mailto:jshacat@asphaltpavement.org)