



2021 AEMA-ARRA-ISSA Annual Meeting

February 15-18





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PPRA Sustainability Efforts Update

Andrew Braham, Associate Professor
University of Arkansas - Fayetteville

PPRA Sustainability Committee

- Established spring 2020
- Committee leadership
 - Andrew Braham, chair
 - Stormy Brewster, vice-chair
 - Rick Church, PPRA liaison
- Primary charge
 - Produce asphalt emulsion treatment EPDs
 - EPD: Environmental Product Declaration



(vertech-group.com)

Why are EPDs important?



Motivation for EPDs

- Multiple states and agencies moving toward requiring EPDs for various materials
 - California, Illinois, FHWA, others
- California may require as soon as July 2021
 - Pre-COVID date
 - Trial projects for concrete, asphalt concrete, and other materials summer 2020
- PPRA wants data-based EPDs for asphalt emulsion based treatments

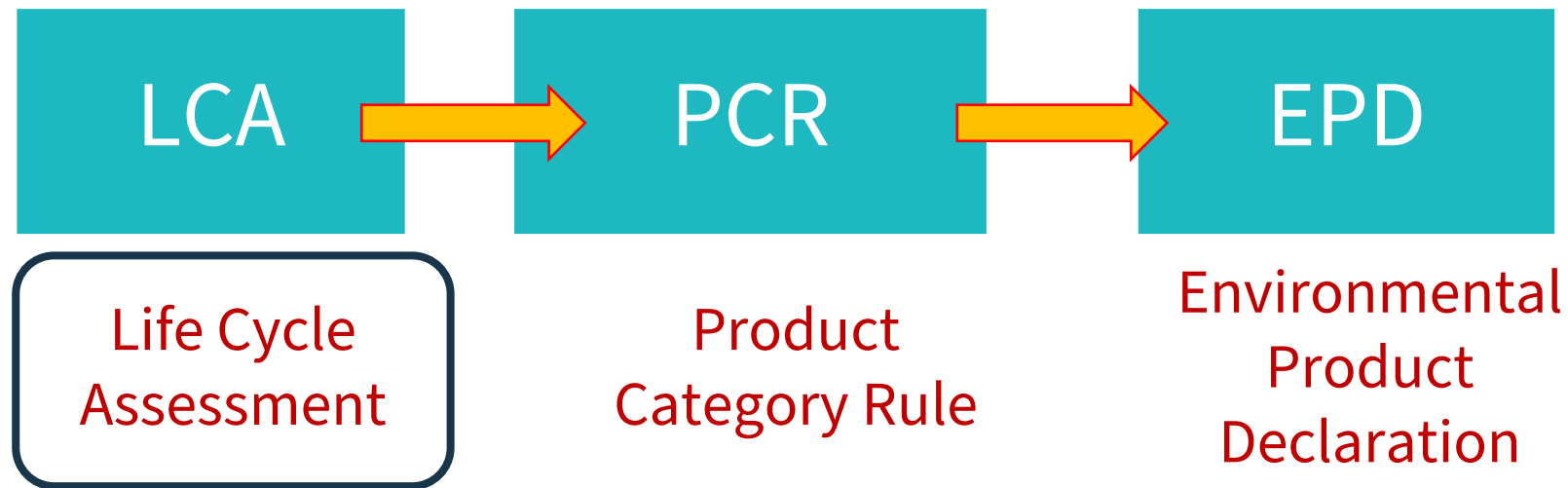


(ieep.com)

How do we get there?



EPDs are the end of a long process



What is an LCA?

Note: the next three slides are dense

Mark Thursday, March 4, 12:30pm CST for
LCA/PCR/EPD webinar

Life Cycle Assessment (LCA)



(wiki.com)

- Defined by ISO 14040 family of standards
 - ISO 14040: Life cycle assessment Principles and framework
 - ISO 14044: Life cycle assessment Requirements and guidelines
- Key steps
 - Determine system boundaries
 - Perform Life Cycle Assessment Inventory
 - Analyze data
 - Present results
 - Perform sensitivity analysis



Energy use, resource use,
emissions, toxicity, fresh
water use, hazardous
waste

of
raw materials,
transportation,
material production

What about PCRs?



Product Category Rule (PCR)



(wiki.com)

- Defined by ISO 14025
 - “Set of specific rules, requirements, and guidelines for developing Type III environmental declarations for one or more product categories”
- Key steps
 - Product category definition and description
 - Goal and scope definition, stages
 - Inventory analysis, additional environmental information
 - Impact category, inventory data categories
 - Materials and substances to be declared
 - Instructions for producing data, content, and format

Good for five
years

Third party
review panel
required

What about EPDs?



Environmental Product Declaration (EPD)



(wiki.com)

- Defined by ISO 14025
- Provide LCA based and other environmental information
- Assist purchasers, users → make informed comparisons between products
- Encourage improvement of environmental performance
- Provide information for assessing environmental impacts of products over life cycle

Third party review panel required

Similar to SDS for environment

Where are asphalt emulsions?



Asphalt emulsions: no existing PCR



For national average EPD
LCA “informs” PCR

After PCR written, site specific LCAs/EPDs can use PCR



For site specific EPD

Where is PPRA now?



PPRA today

- Working with Sphera for LCA
 - Two stages of data collection
 - Stage 1: high level, high participation
 - Stage 2: lots of details, selected participation
 - If you have participated in Stage 1: THANK YOU!
 - If you have not, please participate (NDA signed)
 - No one in PPRA, AEMA, ARRA, or ISSA will see this data
 - You may sign your own NDA with Sphera if you desire
- Working with UL Environment for PCR



(sphera.com)

What is the timeline for the EPD?



EPD timeline – late 2022/early 2023



PPRA sustainability committee moving forward



Moving forward

- What do we need from you?
 - Please participate in Stage 1 data collection
 - If selected for Stage 2, Sphera will work closely with you for extensive data collection
 - None of your data will be shared outside Sphera!
- EPD → Fall 2022 to Spring 2023 timeframe
 - National average asphalt emulsion written
 - You will be able to use the PCR for a site specific asphalt emulsion
- As LCA, PCR, EPD developed, will explore treatments
- LCA/PCR/EPD webinar Thursday, March 4 from 12:30-1:30pm CT



(A. Braham)

Thank you! Questions?
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