UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Anne P. LeHuray, Ph.D.
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Alexandria, Virginia 22301

JAN 19 2016

Dear Dr. LeHuray:

This letter responds to your Request for Correction (RFC) of information pursuant to the *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency* (EPA Information Quality Guidelines) submitted on behalf of the Pavement Coatings Technology Council (PCTC) and received on April 16, 2014.

In the RFC, you raised a number of issues with respect to the objectivity, transparency, and reproducibility of information included on the EPA webpage titled "EPA CADDIS Volume 2: Sources, Stressors & Response - Pavement sealant & PAHs" (CADDIS webpage) and the November 2012 EPA fact sheet titled "Coal-Tar Sealcoat, Polycyclic Aromatic Hydrocarbons, and Stormwater Pollution" (stormwater BMP fact sheet). You requested that EPA remove both of these publications from its website to make modifications including adding additional information and studies.

The Agency uses a graded approach and well-established Agency policies and procedures as appropriate for each of its information products. The Agency employed an internal review process involving Agency management and a communications product review process to establish the appropriate quality, objectivity, utility, and integrity of these products based on the intended use of the information and the resources available.

The intended use of the website Causal Analysis/Diagnosis Decision Information System, or CADDIS, is to help scientists and engineers in the EPA Regions, states, and tribes conduct causal assessments in aquatic systems. Providing this information assists our state and tribal partners with implementing their local environmental programs. Scientists and engineers are a technical audience that can use their awareness of unique or local inputs and supplement them with specific concerns or directly applicable data as they employ the process and background information. CADDIS instructions recommend that users engage with stakeholders and decision makers and use all relevant information in their scientific evaluation process.

The "Coal-Tar Sealcoat, Polycyclic Aromatic Hydrocarbons, and Stormwater Pollution" fact sheet is one of numerous stormwater BMP fact sheets that EPA has developed and made available on its "Stormwater Menu of BMPs" webpage to provide information on preventing discharges of pollutants into storm sewer systems and the Nation's waters. The intended purpose of the "Stormwater Menu of BMPs" webpage is to provide Municipal Separate Storm Sewer System (MS4) operators with examples of practices that can be used to successfully achieve the minimum control measures required under EPA's stormwater regulations. Each of EPA's stormwater BMP fact sheets is consistent with the EPA Communication Stylebook, which states that "Fact sheets are used to provide information about an issue, project or activity to someone who might have limited knowledge of the subject. They should be limited to one or two pages in length and focus on highlights or the issues of highest importance." The Stylebook further states, "Assume the reader will not have a technical understanding of the issues at hand; write as if presenting a talk to non-experts, not for a journal article."

Regarding your comment on page 3, paragraph 4 of your RFC that coal-tar sealcoat manufacturers and appliers consider the information in the CADDIS webpage and stormwater BMP fact sheet to be influential, EPA disagrees. EPA generally considers influential information for the IQGs to be information disseminated in support of top Agency actions (i.e., rules, substantive notices, policy documents, studies, guidance); information disseminated in support of Economically Significant actions as defined in Executive Order 12866, entitled Regulatory Planning and Review (58 FR 51735, October 4, 1993); or major work products undergoing peer review as called for under the Agency's Peer Review Policy. Neither the CADDIS webpage nor the stormwater BMP fact sheet meet any of these categories, and therefore are not considered to be influential.

EPA also notes that it did not deliberately exclude the PCTC from the development of these products, as you state on page 6, paragraph 3 of your RFC. EPA encourages comments on the information in both products at any time, as described on EPA's stormwater menu of BMPs homepage and on the CADDIS contact page (see http://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater and http://www.epa.gov/caddis/caddis_contact.html).

EPA acknowledges that there are multiple sources of PAHs in the environment, as you noted in your RFC. The CADDIS webpage currently lists sources of PAHs other than coal-tar sealcoats in urban waterways. To clarify the broader scope, the CADDIS webpage will be modified so that the title reads "PAHs" rather than "Pavement Sealants and PAHs." When this edit has been published at the time our pending website migration is complete, you will be notified by the Information Quality Guidelines Processing staff. EPA has also inserted a new opening section of the stormwater BMP fact sheet identifying natural and man-made sources of PAHs, and moved the paragraph describing the concerns related to PAHs into this opening section.

Your RFC raised concerns with the following statement in the stormwater BMP fact sheet: "PAHs are a concern because of their harmful impacts on humans and the environment. They are persistent organic compounds, and several PAHs are known or probable human carcinogens and toxic to aquatic life." One of EPA's responsibilities is to provide information to the regulated community and the public about known human and environmental risks associated with chemicals and compounds, including PAHs.

EPA acknowledges that not all PAHs have been analyzed for their harmful effects to humans and the environment. Therefore, EPA has retained this statement with one minor modification: "*Many* PAHs are of concern because of their harmful impacts on humans and the environment," [emphasis added]. EPA also added in-text citations to the fact sheet for these statements. The modified fact sheet is posted on EPA's website and is included as an attachment to this letter.

You requested that EPA remove from the stormwater BMP fact sheet a list of states and municipalities that have taken action on coal-tar sealcoat. EPA routinely provides information to the public and interested stakeholders about activities that local governments are taking to address stormwater pollution. Therefore, EPA retains this section as-is.

You also raised concerns with the validity of the U.S. Geological Survey (USGS) studies, as well as a study by Scoggins et al. (2007), that EPA cites on the CADDIS webpage and in the stormwater BMP fact sheet. EPA is aware that there have been on-going requests for correction to the USGS' studies from the PCTC under the USGS' Information Quality Guidelines, and that these requests have been responded to point-by-point in several letters from the USGS. The Agency's evaluation of the USGS studies determined that the quality, objectivity, and transparency is sufficient for their intended uses. EPA is therefore retaining the references to these studies in its publications.

Finally, you requested that EPA consider amending the CADDIS webpage and stormwater BMP fact sheet to include references to several studies funded by the PCTC and listed in Appendix D of the RFC. EPA declines to modify the EPA CADDIS webpage or the stormwater BMP fact sheet to include references to the PCTC-sponsored studies which question the validity of findings by the USGS and others that coal-tar sealcoat is a significant source of PAHs in the environment. As stated earlier, EPA determined the USGS studies cited in the CADDIS webpage and stormwater BMP fact sheet to be sufficient for the intended use. Additionally, EPA has conducted its own research on this topic, and a study that was subject to the Agency's peer and administrative review found that coal-tar sealcoat releases 100 to 1,000 times more PAHs than other types of surfaces (EPA, 2011).

EPA notes that the CADDIS webpage and the stormwater BMP fact sheet were not intended to be a comprehensive source of all literature related to the topic of coal-tar sealcoat and stormwater. EPA's primary source for the information in the stormwater BMP fact sheet was the National Research Council's report *Urban Stormwater Management in the United States*, which is a review of the EPA stormwater permitting program that includes suggestions for improvement (National Research Council, 2009). This report was approved by the Governing Board of the National Research Council, with members from the councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. EPA's stormwater BMP fact sheet went through Agency review appropriate for its intended audience, including various levels of technical and communications review within EPA's Office of Water, and approval by OW management. Further, EPA includes the following caveat on its stormwater menu of BMP homepage: "The BMP examples and references included on these fact sheets are not intended to be comprehensive. Additionally, the list of BMPs is not all-inclusive, and it does not preclude MS4s from using other technically sound practices." EPA has included a reference to this disclaimer on the revised stormwater BMP fact sheet.

As the CADDIS homepage states, CADDIS is "a website developed to help scientists and engineers in the Regions, states, and tribes conduct causal assessments in aquatic systems." The CADDIS webpage on pavement sealants is meant to provide brief background information on a potential issue of concern

in urban aquatic systems. This kind of background information is critical in the initial stages of a causal assessment, where assessors are deciding what hypotheses should be included in the assessment. The CADDIS webpage discusses coal-tar sealcoat and PAHs in the context of multiple environmental stressors associated with urbanization and urban waters. The webpage does not single out coal-tar sealcoats; many other sources and stressors associated with urban development are discussed throughout the Urbanization module. All of the information included throughout CADDIS (including the pavement sealant webpage) was reviewed by a five-person panel of expert external reviewers; these reviewers are listed on the CADDIS site.

EPA's Office of Research and Development (ORD) is conducting further research on this topic, and plans to publish a study evaluating USGS sediment data using a methodology recommended in the O'Reilly *et al.* (2014) article. EPA is also aware that new peer-reviewed research on coal-tar sealcoat, its potential effects on aquatic systems, and the effects of sealcoat bans and their impacts on PAH levels in the environment has been published since the release of these two documents. EPA may update the CADDIS webpage and stormwater BMP fact sheet in the future to include new relevant information.

If you are dissatisfied with this response, you may submit a "Request for Reconsideration" (RFR). EPA requests that any such RFR be submitted within 90 days of the date of this letter. The RFR should reference RFC # 14003. If you choose to submit an RFR, please send a written request to the EPA Information Quality Guidelines Processing Staff via mail (Information Quality Guidelines Processing Staff, Mail Code 2811A, U.S. EPA, 1200 Pennsylvania Ave., N.W., Washington, D.C. 20460); or electronic mail, quality@epa.gov. Additional criteria for information that should be included in the request is listed on the EPA Information Quality Guidelines website: http://www.epa.gov/quality/guidelines-ensuring-and-maximizing-quality-objectivity-utility-and-integrity-information.

Sincerely,

Joel Beauvais
Deputy Assistant Administrator
Office of Water

Thomas A. Burke, PhD, MPH
Deputy Assistant Administrator and EPA Science Advisor
Office of Research and Development

Enclosure

cc: Ann Duncan, P.E.
Chief Information Officer

References

Environmental Protection Agency. (2011). Assessment of Water Quality of Runoff from Sealed Asphalt Surfaces (EPA Publication No. 600/R-10/178). http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100ECC8.txt

National Research Council. (2009). *Urban Stormwater Management in the United States.* http://www.epa.gov/npdes/pubs/nrc_stormwaterreport.pdf

O'Reilly, K. T., Pietari, J. and Boehm, P. D. (2014). Parsing pyrogenic polycyclic aromatic hydrocarbons: Forensic chemistry, receptor models, and source control policy. *Integr Environ Assess Manag,* 10: 279-285.

EPA United States Environmental Protection Agency

Stormwater Best Management Practice

Coal-Tar Sealcoat, Polycyclic Aromatic Hydrocarbons, and Stormwater Pollution

Permits for Clean Water NPDES

Minimum Measure

Pollution Prevention/Good Housekeeping

What are the sources of polycyclic aromatic hydrocarbons in the environment?

Polycyclic Aromatic Hydrocarbons (PAHs) are persistent organic compounds. These chemicals come from both natural and man-made sources. PAHs are naturally released in the environment from wildfires, volcanic eruptions, and degradation of biological materials contained in various sediments and fossil fuels (CDC/ATSDR, 1995; White and Lee, 1980). Man-made sources of PAHs in the environment include the incomplete burning of organic materials (e.g. coal, oil, gas, wood, garbage); vehicle exhaust; asphalt; coal-tar and coal-tar based sealcoats; creosote; and cigarette and tobacco smoke (CDC/ATSDR, 1995; CDC, 2009; EPA, 2009; National Research Council, 2009).

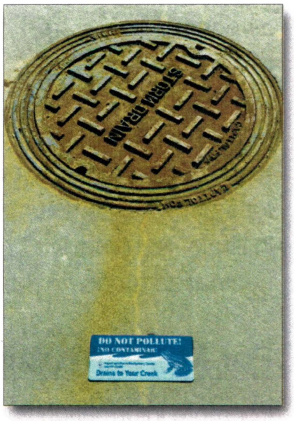
Many PAHs are of concern because of their harmful impacts on humans and the environment. They are persistent organic compounds; several PAHs are known or probable human carcinogens and toxic to aquatic life (Integrated Risk Information System (IRIS), 2014; Scoggins, McClintock, Gosselink, and Bryer, 2007).

What Is Coal-Tar Sealcoat?

Coal-tar sealcoat is a type of sealant used to maintain and protect driveway and parking lot asphalt pavement. Coal-tar sealcoat typically contains 20 to 35% coal tar pitch, a byproduct of the steel manufacturing industry, which is 50% or more polycyclic aromatic hydrocarbons (PAHs) by weight (Mahler, Van Metre, Bashara, Wilson, and Johns, 2005).

Could Coal-Tar Sealcoat Be a Concern for Stormwater?

Studies found that PAHs are significantly elevated in stormwater flowing from parking lots and other areas where coal-tar sealcoats were used as compared to stormwater flowing from areas not treated with the sealant. For example, one study found the amount of PAHs in stormwater runoff was 65 times higher from parking lots sealed with coal-tar sealant vs. stormwater from unsealed parking lots (Mahler et al., 2005).Another study found that coal-tar sealcoat is the largest source of PAHs to urban lakes (Van Metre and Mahler, 2010). PAHs from coal-tar sealcoat may accumulate in the sediment of stormwater ponds, requiring expensive disposal of the dredged PAH-contaminated sediment (Mahler et al., 2012).



State and Municipality Examples Addressing PAHs from Coal-Tar Sealcoat

Several states and cities have taken action to address PAHs from coal-tar sealcoat. The following are some notable examples:

- The city of Austin, Texas banned the sale and use of coal-tar containing pavement sealants in 2005: http://austintexas.gov/CoalTar
- The District of Columbia banned the sale and use of coal-tar sealcoat in 2009: http://doee.dc.gov/coaltar
- In 2009, Minnesota restricted state agencies from purchasing undiluted coal tar-based sealant and directed its Pollution Control Agency to study the environmental effects of coal tar-based sealants and to develop management guidelines: https://www.pca.state.mn.us/water/restriction-coal-tar-based-sealants
- Washington State banned the sale of coal-tar pavement sealants on January 1, 2012 and banned the use of such sealants after July 1, 2013: https://fortress.wa.gov/ecy/publications/summarypages/1104021.html

Office of Water, 4203M
www.epa.gov/npdes/pubs/coal-tar.pdf
www.epa.gov/npdes/stormwater/menuofbmps

EPA 833-F-12-004
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Alternatives to Coal-Tar Sealcoat

Pavement options such as pervious concrete, permeable asphalt and paver systems do not require sealants. These types of pavements allow for stormwater to naturally infiltrate, resulting in decreased runoff.

For More Information

For more information you can watch EPA's webinar *Stormwater, Coal-Tar Sealcoat and Polycyclic Aromatic Hydrocarbons* available at: http://www.epa.gov/national-pollutant-discharge-elimination-system-npdes/npdes-training.

For information on assessing the toxicity of PAHs in sediment see: http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=30006DOD.txt from EPA's Office of Research and Development.

Additionally, you can visit the USGS webpage on PAHs and coal-tar-based pavement sealcoat: http://tx.usgs.gov/sealcoat.html.

References

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