

PAH Proposal

Air Toxics Science Advisory Committee
Meeting

June 17, 2015

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PROPOSAL – FOR DISCUSSION ONLY

PAH Proposal Overview

- Index PAH
- URE
- PAHs to measure / monitor
- Relative Potency Factors
- Source attribution (“fingerprinting”)?

Index PAH

- Benzo[a]pyrene
 - Traditional index PAH
 - Extensively studied
 - Substantial literature
 - Recent (2104) EPA IRIS toxicological review
 - Wide-spread use for regulatory purposes

Unit Risk Estimate

- Current ABC based on 1998 OEHHA URE
 - 0.0011 ($\mu\text{g}/\text{m}^3$)-¹
- 2014 EPA IRIS is proposing new URE
 - 0.0006 ($\mu\text{g}/\text{m}^3$)-¹
- Adopt 2014 URE but with age-adjustment due to mutagenicity
 - Doing so would keep ABC unchanged

Age Adjustment

	< 2 yr	2 to < 16 yr	16 to 70 yr					
URE	6.00E-04	6.00E-04	6.00E-04					
ADAF	10	3	1					
Conc	0.001	0.001	0.001	Pick conc that sets lifetime risk equal to 1e-06				
Age	0.029	0.200	0.771					
Risk	2.E-07	4.E-07	5.E-07	1.E-06 lifetime risk				

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PAHs to be measured

- EPA required (2)
 - Benzo[a]pyrene – index PAH
 - Naphthalene (has separate ABC)
- EPA “requested” (14)
 - From 2009 NATTS TAD
- MN MDH (10)
 - To include their priority cPAHs related to air

Relative Potency Factors

- OEHHA 1993
- EPA 2009 (ERD) - range of values
- MN MDH (2014) – additional values
- Use upper-bound of EPA 2009 values; supplemented with MN MDH values
- Four PAHs currently have no RPFs available
 - Measure anyway and evaluate if RPFs become available later

Source Attribution

- Proposed list of 25 may (or may not) be sufficient for “fingerprinting” (source attribution) purposes
- Monitoring for numerous PAHs at all times for fingerprinting purposes burdensome and inefficient
- Propose proceeding with fingerprinting on a case-by-case basis