

October 19, 2010

Ms. Amy Dunn
OEHHA
1515 Clay St., 16th Floor
Oakland CA 94612

Re: Biomonitoring Equivalents Articles for the Biomonitoring Scientific Guidance Panel

Dear Amy:

This letter accompanies three articles related to our efforts to develop Biomonitoring Equivalents (BEs) as tools for use in interpretation of biomonitoring data in a public health risk context. BEs are estimates of the concentration or range of concentrations of a chemical or its metabolites in a human biological medium (typically blood or urine) that are consistent with existing risk assessment-based exposure guidance values such as reference doses (RfDs) or tolerable daily intakes (TDIs). These values can be used as a screening tool to evaluate whether measured biomarker concentrations are below, in the range of, or in exceedance of existing risk assessment guidance values.

BEs are derived through integration of available pharmacokinetic data with the existing risk assessment in order to estimate relevant steady-state biomarker concentrations at the point of departure for the risk assessment as well as at the exposure guidance value. To date, we have derived and published BEs for almost 50 chemicals frequently included in biomonitoring programs, with another 7 in progress. In addition, we have published a screening-level analysis applicable to a group of at least 40 volatile organic compounds in blood. I have included a bibliography of published papers related to this effort as an attachment to this letter.

Accompanying this letter are two articles presenting guidance on derivation and communication of BE values (Hays et al. 2008 and LaKind et al. 2008) as well as a review article from the *Journal of Applied Toxicology* that illustrates the derivation and use of BEs for several compounds (Hays and Aylward 2009).

We hope that these materials are useful to your committee, and we look forward to describing our work in more detail at your March meeting.

Sincerely,



Sean M. Hays
President
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Biomonitoring Equivalents Bibliography

Bibliography: Biomonitoring Equivalents and Related Articles Addressing the Interpretation of Biomonitoring Data

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