



west virginia department of environmental protection

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MEMORANDUM

To: David Long

From: Lawrence P. Sirinek, Ph.D. *LPS*

Date: January 27, 2016

cc: Erin Brittain
John Dempsey
Patty Hickman

Subject: Freedom Industries Site
Target concentrations for PPH and MCHM in soil and groundwater

I have reviewed Technical Memoranda submitted by Dr. Bruce Fishman, RBR Consulting, Inc. on behalf of the Former Freedom Industries Site (VRRP #15017). The purpose of these documents was to derive risk-based target concentrations (i.e. VRRP Uniform Standards) for 4-methylcyclohexanemethanol (MCHM) and propylene glycol phenyl ether (PPH) in soil and groundwater.

In evaluating the potential toxicity of both of these constituents, it should be noted that the existing toxicological literature is based primarily on short term studies. For this reason, there are considerable levels of uncertainty when applying short term data to derive target cleanup values applicable to long term exposures, as required by the Voluntary Remediation and Redevelopment Rule (60CSR3). Nonetheless, in order to facilitate timely remediation of this site, Dr. Fishman has employed the standard approach in deriving cleanup concentrations, and has incorporated default uncertainty factors that assume toxic effects in susceptible populations of humans exposed on a long term basis to these chemicals, could occur at concentrations 10,000 times lower than those causing observable effects in laboratory animals (rats) exposed on a short term basis. Thus, the resulting target values described in these memoranda are expected to provide a sufficient level of protectiveness, and are recommended for use at the Freedom site.

Please contact me should you have any questions.