

The Shifting Regulatory Landscape Surrounding Chemicals of Historical Concern on Railroad Properties: Focus on Trichloroethylene, Benzo(a)pyrene and Lead

Joshua Austrell Harrill & Alan Nye – CTEH

Allen Stegman – BNSF Railway

Human health risk assessments (HHRAs) are an integral part of the decision making process involving management and remediation of sites potentially impacted by past chemical releases or industrial activities. HHRAs are conducted to evaluate whether the chemicals present in various environmental media at a site (i.e. soil, sediment, groundwater, surface water and air) represent an appreciable risk to human health or the environment given knowledge of the current and planned future use of a site. The HHRA process involves the use of toxicity factors for carcinogenic and non-carcinogenic chemicals and default exposure assumptions developed by federal regulatory agencies such as the United States Environmental Protection Agency (USEPA) as well as agencies at the state level. Toxicity factors and default exposure assumptions are periodically reviewed by these regulatory agencies and can be updated to reflect the current state of the science surrounding a particular chemical. Such changes have the potential to affect downstream decision making processes regarding management and remediation of sites in which environmental site assessments have been conducted or which are in the process of being evaluated. The presentation will review recent changes in the regulatory landscape pertaining to chemicals which have been a historical concern to railroad properties. A particular focus will be placed on recent guidance from USEPA regarding indoor air response action levels for trichloroethylene vapor intrusion, the state of the science regarding toxicity factors and exposure assumptions for benzo(a)pyrene and a proposed decrease in child blood lead concentrations which form the basis for HHRAs of lead contaminated sites. We will briefly discuss the scientific basis for these proposed changes and potential implications for sites in which these chemicals are a potential concern.