

UNION PACIFIC RAILROAD COMPANY

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IDAHO PUBLIC  
UTILITIES COMMISSION

October 8, 2004

Idaho Public Utilities Commission  
P.O. Box 83720  
Boise, ID. 83720-0074

**RE: Idaho PUC Case No. UPR-R-04-01 - Response to Comments by Idaho  
Department of Environmental Quality Relative to Proposed Abandonment Coeur  
d'Alene Industrial Lead Line**

Dear Madam or Sir:

This letter is provided in response to the comments submitted by the Idaho Department of Environmental Quality (IDEQ) relative to the proposed abandonment of portions of the Coeur d'Alene Industrial Lead line (the Line) located in northern Idaho. These comments were submitted by IDEQ to the Idaho Public Utility Commission (IPUC) in a letter dated June 15, 2004.

The IDEQ letter raised concerns relative to the potential for creosote and herbicide contamination along the rail bed of the Line and the potential for human exposure as a result of access to the Line from the nearby, populated areas. The IDEQ letter recommended that additional testing and a risk based assessment be performed to ensure that there are no public health issues.

Based on the discussion presented below, we believe that the proposed abandonment of the ROW does not pose any human health related concerns related to creosote or herbicides and that the sampling program recommended by IDEQ is unnecessary.

IDEQ's concerns relative to creosote presumably arises from the presence of creosote treated ties within the rail bed and the potential for this creosote to migrate into the ballast or underlying rail bed material. It should be pointed out that creosote treated ties and utility poles are used extensively throughout the country and we are unaware of a situation where evaluations such as those suggested by IDEQ have been requested by a regulatory agency as part of an abandonment proceeding.

Creosote treated ties are routinely used in residential settings for landscape purposes without any regulatory restriction. The potential for non-occupational, human contact with ties located within the rail bed would be significantly less than that associated with the common use of treated ties in residential settings.

Creosote consists of a mixture of polycyclic aromatic hydrocarbons (PAHs). Previous studies have indicated that there is minimal migration of PAHs associated with creosote and other treatment compounds from treated wood to the surrounding media. One such study, reported by Brooks (2000)<sup>1</sup>, provides a summary of the literature on the environmental fate of PAHs as well as the results of a field evaluation of the migration of PAHs from newly treated as well as weathered ties. Those observations and conclusions reported within the Brooks study that are pertinent to the issues raised in IDEQ's letter are as follows:

- The migration of creosote from newly treated ties to the surrounding ballast is minimal and occurs primarily in the first few years.
- There is a rapid decrease in PAH concentrations with time. In the case of ballast, this decrease is attributed to photochemical degradation within the ballast environment.

The Brooks study reported maximum observed average concentrations of 1.5 mg/kg total PAHs within the ballast adjacent to weathered ties over the 555 day study period. To provide a perspective on how low this concentration is we have made a comparison with IDEQ's Tier 1 Risk Based Criteria. The Tier 1 criteria represent risk based thresholds that consider the ingestion, inhalation, and dermal contact exposure pathways for contaminants. Concentrations of contaminants in soils below these thresholds have been determined by IDEQ to not represent an excessive risk for these pathways and do not require any remedial action. As a separate point of reference, the comparison has also been made to generic risk based criteria for protection of human health adopted by the Michigan Department of Environmental Quality (MDEQ).

The risk based criteria provided by IDEQ and MDEQ are for individual PAH compounds (there are no criteria for total PAHs). Accordingly we extrapolated the total PAH concentration (1.5 mg/kg) found in the Brooks study into estimated concentrations that would be expected for those individual PAH compounds that would commonly be associated with weathered creosote. This extrapolation is based on information reported in the Brooks study. The result of the comparison of the extrapolated PAH concentrations with the risk based criteria is presented below.

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<sup>1</sup> Brooks, K.M. 2000. Migration of Polycyclic Aromatic Hydrocarbons (PAH) from New and Used Railway Cross-ties into Ballast and Adjacent Wetland Environments. American Wood-Preservers' Association 96<sup>th</sup> Annual Meeting, May 8, 2000

**Comparison with Risk Based Corrective Action Guidance for PAHs Associated with Weathered Creosote**

Individual PAH Compounds Commonly Associated with Weathered Creosote	IDEQ Tier 1 Risk Based Screening Levels for Surficial Soils (mg/kg)		MDEQ Generic Risk Based Criteria <sup>(2)</sup> (mg/kg)	Extrapolated Concentration Based on Total Avg. PAH Concentration of 1.5 mg/kg in Ballast	
	Residential	Commercial/Industrial	Residential/Commercial	% of Total <sup>(4)</sup>	mg/kg
Benzo(b)Fluoranthene	1.22	7.7 <sup>(1)</sup>	20 <sup>(3)</sup>	8	0.12
Benzo(k)Fluoranthene	4.4 <sup>(1)</sup>	4.4 <sup>(1)</sup>	200 <sup>(3)</sup>	8	0.12
Benzo(a)Anthracene	1.22	19.3 <sup>(1)</sup>	20 <sup>(3)</sup>	12	0.18
Chrysene	0.5 <sup>(1)</sup>	0.5 <sup>(1)</sup>	2,000	12	0.18
Fluoranthene	9 <sup>(1)</sup>	9 <sup>(1)</sup>	46,000	26	0.39
Phenanthrene	15 <sup>(1)</sup>	15 <sup>(1)</sup>	1,600	8	0.12
Pyrene	10 <sup>(1)</sup>	10 <sup>(1)</sup>	29,000	13	0.20

- (1) Risk-based value exceeds Soil Saturation Limit (SSL). RBSL equals the SSL.
- (2) MDEQ lowest criteria for particulate inhalation, dermal contact, or ingestion pathway.
- (3) MDEQ indicates insufficient data for inhalation pathway
- (4) The extrapolated concentration of the individual compounds is based on the spectrum of individual PAH compounds found in weathered in creosote as reported in the Brooks study

As indicated in the above table, the extrapolated concentrations of the individual PAH compounds within the ballast adjacent to weathered ties are significantly less than either the IDEQ or MDEQ risk based criteria. The ties located on the Line are generally more than four years old; therefore, the results reported in the Brooks study for weathered ties would be representative of the conditions found on the Line.

The above analysis indicates that any concentrations of creosote that made be found within the rail bed of the Line would be minimal and would not represent a risk to the general public.

The IDEQ letter also makes reference to potential environmental controls if tie washing occurs as part of the tie removal. Washing of ties as part of the tie removal process is not a common occurrence. IDEQ may have raised this issue due to familiarity with the activities associated with a CERCLA response action conducted by UPRR on an abandoned branch line (the Wallace-Mullan Branch) in the Coeur d'Alene Valley. This response action addressed metals associated with mine waste contamination that existed along portions of the rail bed. Due to the presence of these metals, the scope of the response action required decontamination of the ties prior to salvage. This decontamination involved the removal of visually identifiable accumulations of surface material on the ties. In this unique situation, high pressure washing was used in the decontamination process.

During the course of the Wallace-Mullan Branch response action, IDEQ requested that the solid residuals removed from the ties as well as the wash water be analyzed for

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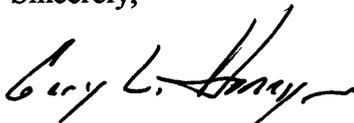
creosote compounds. The analysis did not find any detectable concentrations of creosote. This indicates that, even under the aggressive conditions represented by the pressure washing, migration of creosote from railroad ties did not occur.

The IDEQ letter also raised the issue of herbicides. Any herbicides that would be present within the rail bed would occur as a result of routine weed spraying. Any such weed spraying would have occurred by a licensed contractor and would not represent any more risk than that which normally occurs along any public transportation corridor that would be subject to such spraying.

Based on the above discussion, there is no significant potential of human health risk associated with the presence of creosote or herbicides within the ROW. Accordingly, we do not believe that either the field investigation suggested by IDEQ or any further evaluation of this issue is warranted.

If you have any questions pertaining to this letter please do not hesitate to contact Gary Honeyman at (307) 745-6532.

Sincerely,



Gary L. Honeyman  
Manager, Environmental Site Remediation

cc: Joel Strafelda – UPRR  
Mack Shumate – UPRR  
Bob Bylsma - UPRR  
Gwen Fransen - IDEQ