

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



REGION 4

61 Forsyth Street, S.W.  
Atlanta, Georgia 30303

MEMORANDUM

September 5, 2013

**SUBJECT:** Consideration of Removal Action  
Southeastern Wood Superfund Site, Canton, MS

**FROM:** Kevin Koporec, Toxicologist  
Technical Support Section  
Superfund Support Branch *KPK*

**THROUGH:** Glenn Adams, Chief  
Technical Support Section  
Superfund Support Branch *TAF*  
*GA*

**TO:** Kevin Eichinger, OSC  
Emergency Response & Removal Branch

Per your request, I am relaying to you our recommended EPA Region 4 Removal Management Levels (RMLs) for the identified soil contaminants at the Southeastern Wood Preserving Superfund site in Canton, Mississippi.

These RMLs (based on an excess cancer risk of  $1 \times 10^{-4}$  or a noncancer hazard quotient [HQ] of 3) are designed to be used as "triggers" to help determine the need for time-critical removal actions. Although the RMLs are derived based on potential health risks, exceedance of an RML by itself does not necessarily imply that health effects will occur. This is due to the conservative (i.e., health protective) nature of both the exposure assumptions and toxicity values used by EPA. If you decide to conduct a removal action on parcels exceeding these RMLs, concentrations based on a cancer risk of  $1 \times 10^{-4}$  (the RML),  $1 \times 10^{-5}$ , or  $1 \times 10^{-6}$ , or a HQ of 1, can be used as final cleanup levels. I have also included these values for each of the chemicals below.

I understand there may be some different land uses (and therefore different receptors) for different parcels within the area of interest. I would recommend that the effective removal level would be based on how the property is being used now regardless of how it may be zoned, e.g., if it is actually used for industrial/commercial purposes, remediate to the less stringent industrial level. If a property is industrial/commercial, but includes a child care facility, the residential-based values would be recommended. You as the risk manager can select the final removal

level(s), at your discretion, based on other factors in addition to potential health risks. The selected cleanup level and its basis should be passed on to the remedial project team in case the long term use of the given parcel may potentially be different.

### RESIDENTIAL SOIL

#### Dioxin (values apply to TCDD-TEQ) in residential soil.

Removal Management Level (RML): 150 ng/kg (HQ = 3)

Potential risk based cleanup levels: 50 ng/kg (HQ = 1 & cancer risk =  $1 \times 10^{-5}$ ); 5 ng/kg (cancer risk =  $1 \times 10^{-6}$ )

#### Benzo[a]pyrene in residential soil.

RML: 1500 ug/kg (cancer risk =  $1 \times 10^{-4}$ )

Potential risk based cleanup levels: 150 ug/kg (cancer risk =  $1 \times 10^{-5}$ ); 15 ug/kg (cancer risk =  $1 \times 10^{-6}$ )

#### Hexachlorodibenzo-p-dioxin (HCDD) in residential soil.

RML: 9400 ng/kg (cancer risk =  $1 \times 10^{-4}$ )

Potential risk based cleanup levels: 940 ng/kg (cancer risk =  $1 \times 10^{-5}$ ); 94 ng/kg (cancer risk =  $1 \times 10^{-6}$ )

### INDUSTRIAL/COMMERCIAL SOIL

For this scenario, the worker is assumed to be a combined indoor/outdoor worker (soil ingestion rate = 75 mg/day) (EPA 1991). Thus these calculated RMLs are site-specific (differing from the generic RMLs listed on the EPA website).

#### Dioxin (values apply to TCDD-TEQ) in Industrial soil.

RML: 2300 ng/kg (HQ = 3 & cancer risk =  $1 \times 10^{-4}$ )

Potential risk based cleanup levels: 750 ng/kg (HQ = 1 & cancer risk =  $3 \times 10^{-5}$ ); 230 ng/kg (cancer risk =  $1 \times 10^{-5}$ ); 23 ng/kg (cancer risk =  $1 \times 10^{-6}$ );

#### Benzo[a]pyrene in Industrial soil.

RML: 24,000 ug/kg [24 mg/kg] (cancer risk =  $1 \times 10^{-4}$ )

Potential risk based cleanup levels: 2400 ug/kg (cancer risk =  $1 \times 10^{-5}$ ); 240 ug/kg (cancer risk =  $1 \times 10^{-6}$ )

Hexachlorodibenzo-p-dioxin (HCDD) in Industrial soil.

RML: 50 ug/kg [50,000 ng/kg] (cancer risk =  $1 \times 10^{-4}$ )

Potential risk based cleanup levels: 5 ug/kg [5,000 ng/kg] (cancer risk =  $1 \times 10^{-5}$ ); 0.5 ug/kg [500 ng/kg] (cancer risk =  $1 \times 10^{-6}$ )

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References:

EPA 1991. *Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual, Supplemental Guidance*, "Standard Default Exposure Factors", Interim Final, OSWER Directive 9285.6-03, March 25, 1991.

EPA 2013. Regional Screening Levels for Chemical Contaminants at Superfund Sites [[http://www.epa.gov/reg3hwmd/risk/human/rb-concentration\\_table/index.htm](http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm)], includes on-line calculator, updated May 2013.

Feel free to contact me if you need further assistance on risk assessment issues.

