Message

From: Leo Brausch [Lbrausch@brauschenv.com]
Sent: 9/19/2016 6:27:57 PM
To: Santos, Carmen [Santos.Carmen@epa.gov]
CC: Wilson, Patrick [Wilson.Patrick@epa.gov]; Cepko, Russ P [Russ.Cepko@cbs.com]; Rykaczewski, Dave A. [dave.rykaczewski@wspgroup.com]; Romano, Amy M. [amy.romano@wspgroup.com]; Rob Neal [rob.neal@hagerpacific.com]; Diana Olson [diana.olson@hagerpacific.com]; Cousineau, Mark S. [markc@hmcinc.biz]
Subject: RE: TSCA PCBs: CBS / Former Westinghouse, Rancho Dominguez - EPA Comments: EPCs and PCB Screening Criteria and Cleanup Levels
Attachments: Site-Specific RBCL for Aroclor 1254 (non-cancer effects)_091916.pdf

Carmen,

CBS and its consultant, WSP, have reviewed your email dated September 13, 2016, which included EPA's comments and proposed modifications of the risk-based screening criteria and risk-based cleanup levels (RBCLs) proposed by CBS for cleanup of polychlorinated biphenyls (PCBs) in the interior of the former Westinghouse apparatus repair facility in Rancho Dominguez, California. Our preliminary thoughts regarding EPA's comments are summarized below. Please note that we may have additional responses after review of your comments on the annotated Cleanup Plan outline.

Inclusion of Non-Cancer Reference Dose to Derive PCB Risk-Based Cleanup Level

EPA stated that "EPA has developed a non-cancer reference dose for PCBs. The reference dose of 2.0 x 10^{-5} mg/kg-day from PCB Aroclor 1254 should be used to derive risk-based, non-cancer thresholds for PCBs." The site-specific RBCL proposed for the site applies to PCBs as a mixture and not to an individual Aroclor. This approach of not considering a non-cancer reference dose for PCBs as a mixture is consistent with EPA's approach in deriving a regional screening level (RSL) for soil as presented in EPA's RSL Generic Table Guidance, dated May 2016.

In addition, the reference dose recommended by EPA to use is for Aroclor 1254. Based on the numerous PCB samples of various media collected at the site, Aroclor 1254 was only detected in two concrete wall samples at concentrations of 0.11 mg/kg and 0.92 mg/kg. It was not detected in any other media, and Aroclor 1254 should not be considered as a "driver" for deriving the RBCL. But even if the non-cancer effects of Aroclor 1254 were assumed in the calculation of the RBCL, and assuming a hazard index of 1.0 and the assumptions provided in Table 2 of the RBCL write-up provided to EPA, the resulting RBCL would be 26.2 mg/kg (see attached calculation). Therefore, our proposed RBCL of 18 mg/kg is already protective of potential non-cancer effects.

Inclusion of the Inhalation Pathway to Derive PCB Risk-Based Cleanup Level

EPA indicated that it does not agree with the calculation of the site-specific risk-based PCB cleanup level for concrete because it does not account for contributions of PCBs in porous surfaces to the air pathway. As indicated in our submittal regarding the derivation of RBCLs, PCBs were not detected in the air-particulate data set, and only trace concentrations (maximum of 0.098 $\mu g/m^3$) of Aroclor 1242 were detected in the air-vapor data set. If the inhalation pathway were to be included in deriving the RBCL, only the vapor portion of the pathway should be considered applicable given that no PCBs were detected in the samples collected under pre-remediation conditions.

EPA's Proposed Revised Risk-Based Cleanup Level for PCBs

EPA proposed a revised RBCL for PCBs of 0.94 to 9.4 mg/kg, which is consistent with EPA's RSL for PCBs in soil assuming a cancer risk range of 10^{-6} to 10^{-5}. According to EPA's RSL guidance, this number was derived assuming an ingestion rate of 100 mg/kg per day, which applies to a composite worker receptor population. According to EPA guidance, a composite worker is for "a long-term receptor exposed during the work day who is a full time employee working on-site and who spends most of the workday conducting maintenance activities outdoors. The activities for this receptor (*e.g.*, moderate digging, landscaping) typically involve on-site exposures to surface soils." (https://epa-prgs.ornl.gov/radionuclides/comworksoilimage.html).

The composite worker ingestion rate is not appropriate for our site-specific receptor population, which are facility workers who works indoors within the warehouse. An ingestion rate of 30 mg/kg per day was assumed in deriving the RBCL because it is the EPA-recommended value for the daily dust ingestion rate for an adult as presented in the EPA (2011) Exposure Factors Handbook. The EPA dust ingestion rate recommendation includes "soil tracked into the indoor setting, indoor settled dust, and air-suspended particulate material that is inhaled and swallowed" (EPA 2011). Because the site-specific receptor population works in an indoor setting, the ingestion rate of 30 mg/kg per day appears more reasonable to assume than an ingestion rate associated with an outdoor maintenance worker.

EPA's Proposed Screening Level for Nonporous Surfaces

EPA proposes a screening level for nonporous surfaces of 1 to 5 mg/100 cm^2 for high frequency contact areas and 5 to 10 mg/100 cm^2 for low frequency contact areas. EPA does not provide the source or basis of these screening criteria. Our proposed screening criterion for nonporous surfaces was 10 mg/100 cm^2, which is the surface concentration for unrestricted use of non-porous surfaces in 40 CFR 761.79(b)(3)(i)(A). We would like to review the basis for EPA's proposed screening level for nonporous surfaces.

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From: Santos, Carmen [mailto:Santos.Carmen@epa.gov]
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Subject: TSCA PCBs: CBS / Former Westinghouse, Rancho Dominguez - EPA Comments: EPCs and PCB Screening Criteria and Cleanup Levels

Hello Leo:

Thank you for proposing exposure point concentrations and risk-based screening and cleanup levels for PCBs at the former Westinghouse warehouse at Rancho Dominguez, Compton, California. Cleanup of PCBs at this site is subject to requirements in the PCB regulations at 40 CFR 761 implementing the Toxic Substances Control Act.

Below are EPA's comments on the EPC calculations and cleanup levels proposed by CBS and Hager Pacific (the Parties) for cleanup of PCBs in the interior of the former Westinghouse warehouse building. The comments are based on my review and the review by Dr. Patrick Wilson of the (1) EPC calculations and risk-based cleanup levels proposed for concrete and non-porous surfaces, (2) criteria to evaluate indoor air results, and (3) information provided in Enclosure A of CBS' letter to support these key elements of the future PCB cleanup plan. Please call me as soon as you are able to discuss issues or concerns that you may have on the comments and modifications provided below of the Parties proposal. After September 15, Dr. Wilson will not be available for about two weeks.

I am completing my review of the draft outline application for the PCB cleanup application the Parties will submit in the future for EPA approval under 40 CFR 761.61(c). I will send those comments to you during the week of September 19 or sooner, if possible.

EPA Comments and Modifications of Proposed
EPC Calculations, Risk-Based Screening Criteria, and Risk-Based Cleanup Levels

1. Screening criteria for PCBs in indoor air, porous, and non-porous surfaces. We have a different opinion on the screening criteria applied to all these media. While EPA uses a lifetime cancer risk range of 1 x 10-6 to 1 x 10-4, this

range does not account for non-cancer effects from exposure to PCBs. Non-cancer effects must be reflected in the choice of a screening criteria. EPA has developed a non-cancer reference dose for PCBs. The reference dose of 2.0 x 10-5 mg/kg-day from PCB Aroclor 1254 should be used to derive risk-based, non-cancer thresholds for PCBs. Taking into consideration the PCB non-cancer reference dose, the screening criteria for all media should fall within the 1 x 10-6 to 1 x 10-5 carcinogenic risk range to ensure protection of human health for both cancer and non-cancer health effects.

Enclosure A states in page 3 under "Equations and Assumptions to Derive Site-Specific RBCLs" that: "EPA's IRIS database only includes a cancer toxicity value for PCBs. A non-cancer toxicity value for PCBs has not been estimated at this time (EPA 2016b)." This statement is partially correct, EPA has developed and included in IRIS a non-cancer reference dose for PCB Aroclor 1254 that should have been mentioned in Enclosure A and used in calculating site-specific risk-based PCB cleanup levels for the site.

2. Screening level for non-porous surfaces. The Parties have proposed the 10 ug/100 cm sq surface concentration for unrestricted use of non-porous surfaces in 40 CFR 761.79(b)(3)(i)(A) as the screening criteria and cleanup level for high and low contact surfaces. However, the 10 ug/100 cm sq regulatory level is applicable to surfaces previously in contact with liquid PCBs and not dust or coatings such as paint.

Please clarify the PCB source(s) that impacted non-porous surfaces and if such surfaces are coated with paint that contains PCBs. If non-porous surfaces are coated with paint that contains PCBs, was the paint tested to determine the PCB levels?

3. Calculation of risk-based cleanup level for PCBs in concrete. We do not agree with the calculation of the site-specific risk-based PCB cleanup level for concrete. Such calculation does not account for contributions of PCBs in porous surfaces to the air pathway and does not consider the non-cancer reference dose for PCBs currently available in IRIS.

4. Calculation of exposure point concentrations (EPCs) for indoor air and surface wipes. We agree with the calculated EPC for PCBs in indoor air of 0.088 ug/cubic meter. We agree with the calculated EPC for PCBs on non-porous surfaces of 1.2 and 1.4 ug/100 cm sq for high and low frequency of contact areas, respectively. We do not agree with the screening criteria. See Comment #1 above.

5. Calculation of exposure point concentration (EPC) for PCBs in porous surfaces (e.g., concrete). We agree with the EPCs calculated for porous surfaces but not with the site-specific risk-based cleanup level calculated and proposed for concrete. Refer to Comment #1 above.

6. EPA modifications to proposed screening criteria and site-specific risk-based PCB cleanup levels. The table below provides EPA's revised screening criteria and risk-based cleanup levels for the former Westinghouse warehouse building.

Media and Surfaces
Proposed EPC
Proposed Screening Criteria and Site-Specific PCB Cleanup Level
EPA Modified Screening Criteria and Risk-Based PCB Cleanup Levels
Indoor air samples, ug/m3
0.088
0.021 – 2.1
0.021 – 0.21
Wipes, non-porous surfaces, ug/100 cm sq
1) High frequency contact
2) Low frequency contact

1.2
1.4

10

10

1 to 5
5 to 10
Bulk samples, porous surfaces, mg/kg*
1) Transformer pit floor and walls and Northeast loading dock walls
2) Building walls, including Office, Break Room, and Loading Dock
3) Warehouse Floor North of Grid Line N220 and Mezzanine Area
4) Warehouse Floor South of Grid Line N220 and Mezzanine Area

1,800

2.4

46

8.5
* 0.94 to 94

*Proposed risk-based cleanup level = 18

* 0.94 to 9.4

* Revised risk-based cleanup level = 9.4
Bulk Dust samples, HVAC system in Western Office Area, mg/kg
3.9
not an EPC, based on highest of 2 bulk dust sample
0.94 to 94
0.94 to 9.4

Revised cleanup level = 0.94

Please call or email me if you have any questions concerning EPA's comments on the proposed EPCs, screening levels, and risk-based cleanup levels and EPA's modifications of the proposed PCB screening and cleanup levels.

Thank you for your courtesies.

Best,
Carmen

Carmen D. Santos

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"Think left and think right and think low and think high. Oh, the thinks you can think up if only you try!" Dr. Seuss

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Before printing this message and/or attachments, think if it is necessary. Think Green.

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