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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

Via Electronic Mail and US Postal Service Mail
USPS Certified Mail Receipt No.7008 1830 0002 6279 5448

July 2, 2010

Donald Thompson, President Pechiney Cast Plate
c/o Eileen Burns-Lerum
8770 West Bryn Mawr Avenue
Mail Code 7J
Chicago, IL 60631-3542

Re: Polychlorinated Biphenyls - U.S. EPA Conditional Approval Under 40 CFR 761.61(c), Toxic Substances Control Act – *"Polychlorinated Biphenyls Notification Plan Former Pechiney Cast Plate, Inc Facility Vernon, California,"* July 9, 2009

Dear Mr. Thompson:

The U.S. Environmental Protection Agency Region 9 (USEPA) is approving with conditions certain elements of the *"Polychlorinated Biphenyls Notification Plan Former Pechiney Cast Plate, Inc Facility Vernon, California,"* dated July 9, 2009 and prepared by AMEC Geomatrix (Application) for Pechiney. Pechiney submitted this risk-based disposal approval application for polychlorinated biphenyls (PCBs) under the Toxic Substances Control Act (TSCA) regulations in 40 CFR 761.61(c). On behalf of Pechiney, AMEC Geomatrix (AMEC) revised the Application on March 16 and April 12, 2010.
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The Application and its subsequent amendments propose additional characterization for PCBs in soils and concrete and onsite and offsite disposal of onsite soils and concrete depending on PCB levels. Enclosure 1 contains the conditions of approval. Pechiney and Geomatrix must implement the elements of the Application approved in Enclosure 1 as modified by the conditions of approval.

USEPA is approving with conditions the additional site characterization and sampling proposed in the Application and subsequent Application amendments. USEPA believes these proposed activities do not pose an unreasonable risk of injury to health or the environment.

Enclosure 1 does not cover approval of the cleanup levels and onsite disposal of onsite PCB-` contaminated soils and concrete proposed in the Application. USEPA is deferring approval of these elements of the Application until after USEPA reviews the information requested in Enclosure 1.

Attached to Enclosure 1 are comments on the Application prepared by RTI International for Dr. Zubair Saleem (USEPA Headquarters). Among other issues, these comments focus on the remediation goals proposed in the Application, soil and concrete sampling, and analysis of PCB congeners.

Potential sources of PCB contamination in soils and concrete include hydraulic oils used in cast plate equipment (e.g., forge presses), dielectric fluids used in transformers and capacitors, and waxes used in metal casting. Aroclor 1232, 1248, 1254, and 1260 were detected at the Pechiney site.

In general, Pechiney proposes to remove and dispose offsite concrete and soils contaminated with PCBs at levels equal to or above 5.3 mg / kg (ppm). Specifically, Pechiney proposes to dispose onsite crushed concrete with a PCB concentration below 5.3 ppm at 0 to 5 feet below ground surface (bgs). According to Pechiney's proposal, soils with PCBs below 5.3 ppm will be disposed onsite at 0 to 5 feet bgs, Soils with a PCB level equal to or below 35 ppm will be disposed onsite within 5 to 15 feet bgs; and soils with PCBs above 35 ppm will be disposed onsite below 15 feet bgs.

After USEPA reviews the information required in Enclosure 1, USEPA will approve or modify with conditions Pechiney's proposed PCB cleanup levels for onsite disposal of onsite PCB-contaminated soils and crushed concrete. USEPA will make this decision together with a determination as to whether the PCB cleanup levels, PCB cleanup activities, and onsite disposal of onsite PCB-contaminated onsite soils and crushed concrete do not present an unreasonable risk of injury to health or the environment.

The Pechiney site will undergo cleanup for PCBs (cleanup regulated under USEPA TSCA regulations) and other contaminants such as volatile organic compounds (cleanup regulated by the California Department of Toxic Substances Control)[1] in preparing the site for redevelopment.

We understand the City of Vernon (City) plans on redeveloping the former 26.9-acre Pechiney site into industrial and commercial uses. The Application states the City plans to record a restrictive covenant to limit the Pechiney property to industrial and commercial land uses and that no other land use (e.g., residential) will be allowed at the site. The conditions of approval in Enclosure 1 require that at a minimum Pechiney record a deed notice in accordance with California law and that such notice meet the requirements in Enclosure 1.

Finally, USEPA recommends that routes to be used for transportation of PCB-containing wastes (e.g., PCB remediation wastes) for offsite disposal and cleanup

[1]Cleanup of non-PCB contaminants will be under a California Department of Toxic Substances Control imminent and substantial endangerment determination and consent order.

activities be designed to minimize impact to nearby communities already bearing a burden or impact from other environmental issues that affect them. One such community is the community of Maywood.

We look forward to be of assistance to Pechiney and its consultant during implementation of the enclosed conditional approval of Pechiney's Application. Please contact Carmen Santos of my staff at 415.972.3360 if you have any questions concerning this conditional approval.

Sincerely,

Jeff Scott
Director
Waste Management Division

Enclosures (2)

Cc: Linda Conlan (AMEC Geomatrix)
Michel Iskarious (DTSC)
Brian Endlick (DTSC)
Arlene Kabei, USEPA R9
Steve Armann, USEPA R9
Patrick Wilson, USEPA R9
Margaret Alkon, USEPA R9
Carmen Santos, USEPA R9

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

July 2, 2010

USEPA Conditional Approval for Former Pechiney Cast Plate, Inc. Facility PCB Risk-Based Cleanup Under 40 CFR 761.61(c)

"Polychlorinated Biphenyls Notification Plan Former Pechiney Cast Plate, Inc Facility Vernon, California"
Prepared by AMEC Geomatrix, July 9, 2009 (Application) for Pechiney Cast Plate

A. Background and Introduction

The U.S. Environmental Protection Agency Region 9 (USEPA) is approving with conditions certain elements of the *"Polychlorinated Biphenyls Notification Plan Former Pechiney Cast Plate, Inc Facility Vernon, California,"* dated July 9, 2009 and prepared for Pechiney by AMEC Geomatrix (Application). Pechiney submitted the Application in accordance with the Toxic Substances Control Act (TSCA) regulations in 40 CFR 761.61(c) (risk-based disposal approval application). This approval is for the 26.9-acre former Pechiney Cast Plate Inc. facility (Pechiney or Site) at 3200 Fruitland Avenue, Vernon, California.

This approval covers conditions of approval for additional characterization, sampling, and analysis proposed in the Application and conditions for other work that USEPA believes to be necessary in relation to PCBs at the site. This approval also covers offsite disposal of PCBs from the Pechiney site. This approval is effective on the date of USEPA's transmittal letter. The conditions of approval are described in Section C.

However, this approval does not cover approval of the cleanup levels and onsite disposal of onsite PCB-` contaminated soils and concrete proposed in the Application. USEPA is deferring approval of these elements of the Application until after USEPA reviews the information requested in this approval.

This conditional approval does not relieve the owner of the Pechiney property from complying with all other applicable federal, state, and local regulations and permits. Departure from the approval conditions without prior written permission from USEPA may result in the commencement of proceedings to revoke this approval, and / or an enforcement action. Nothing in this approval bars USEPA from imposing penalties for violations of this approval or for violations of other applicable TSCA PCB requirements or for activities not covered in this approval.

B. Pechiney Risk-Based Application

This conditional approval is based on USEPA's review of the Application, AMEC Geomatrix's Amendments[1] 1 through 3 to the Application, and USEPA Headquarters (USEPA HQ) review of the Application. Amendments 1 through 3 modify the Pechiney Application (Amended Application). The Application Amendments respond to several issues raised in the USEPA HQs comments.

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[1]Amendments 1 through 3 to the Application are dated March 16, 2010 (Response to USEPA preliminary comments on the Application), April 2, 2010 (Proposed concrete and soil sampling plan for coplanar PCBs), and April 2, 2010 (Proposed additional concrete sampling plan for PCBs).

ALCOA owned and operated a 56-acre manufacturing facility from 1937 until 1997. Among others, activities at the facility included manufacturing of high-precision cast aluminum plates. Century Aluminum purchased the western 26.9-acre portion of the ALCOA facility in 1998. Pechiney purchased the 26.9-acre Century Aluminum facility in 1999. High precision cast aluminum plates were also manufactured at the former Pechiney facility. The site is currently zoned as industrial / commercial. A restrictive covenant will be recorded by the City of Vernon to maintain this zoning for the site. The site is paved with asphalt and a 600,000 square feet concrete slab is present at the site.

Potential sources of PCB contamination at the site include PCB-containing hydraulic fluids and dielectric fluids. Based on the Application, PCBs are present in soils at concentrations up to 2,000 mg / kg (ppm) at depths up to 20 to 22 feet below ground surface (bgs) and at 35 ppm or greater at depths between 5 and 15 feet bgs. PCBs are present in concrete at concentrations below and above 50 ppm PCBs. PCB Aroclors 1248, 1254, and 1260 are the predominant Aroclors detected at the site. Ground water depth at the site is about 160 feet below ground surface (bgs). In addition to PCBs, other contaminants (e.g., total petroleum hydrocarbons and chlorinated hydrocarbons) are present in soils at the site.

Pechiney's Proposal for PCB Cleanup

In general, the Application as modified by Amendments 1, 2, and 3 consists of removing via excavation and disposing of PCB contaminated soils, concrete, and asphalt pavement. Depending on certain factors, PCB contaminated soils will be either disposed onsite or offsite.

- Proposed PCB cleanup level of 5.3 mg / kg (ppm) for concrete and surface /shallow (0 to 5 feet below ground surface [bgs]) soils[2].
- Removal of manmade structures such as building slabs, pavement, footings, foundations, pits, and sumps as part of the below grade demolition. Segregation of concrete for disposal based on PCB concentration in the concrete.
- Crushing and onsite disposal of onsite concrete and asphalt slabs with PCBs below 5.3 ppm. This waste is proposed to be disposed as excavation and site-wide backfill[2] and
- Offsite disposal of concrete and asphalt pavement with PCBs equal to and above 5.3 ppm PCBs.
- Remove onsite surface soils in the 0 to 5 bgs interval that are contaminated with PCBs at and above 5.3 ppm and dispose of these soils offsite.
- Additional soil characterization for PCBs beneath manmade structures and other areas. Certain soil samples will be collected for analysis of 12 dioxin-like PCB congeners (coplanar PCBs).
- Additional concrete characterization for PCBs including analysis for coplanar PCBs.
- Collection of soil cleanup confirmation samples.
- Onsite disposal of onsite soils in the 5 to 15 feet depth interval containing PCBs at 35 ppm[2].
- Onsite disposal of onsite soils at a depth below 15 feet bgs containing PCBs above 35 ppm[2].
- Restrictive covenant restricting the use of the property to industrial / commercial use.

[2] This approval does not cover approval of the cleanup levels and onsite disposal of onsite PCB-contaminated soils and concrete proposed in the Application. USEPA is deferring approval of these elements of the Application until after USEPA reviews the information requested in this approval.

C. USEPA Conditions of Approval

USEPA is hereby approving with certain conditions Pechiney's Amended Application including Section 6 of the Application, "PCB Remedial Action Plan" (PCB RAP). USEPA is approving the PCB RAP and Amended Application as modified by the conditions established in this approval. Pechiney must implement the Amended Application and RAP as modified by the conditions of approval established herein.

1. Certification. Within 15 days after the date of this approval and before beginning implementation of the Amended Application, please submit a revised certification that reflects and maintains the integrity of the Certification language in 40 CFR 761.3 and 761.61(a)(3)(i)(E).

The PCB regulations are very specific about the language to be used to qualify as "Certification." Modifying that language by inserting qualifiers undercuts the requirement that the certifying officials take responsibility to do a diligent inquiry. Limiting the certification to only certain type of characterizations (e.g., like those specifically addressed in AMEC Geomatrix's certification) is problematic. USEPA's TSCA regulations call for <u>all</u> characterizations to be made available to USEPA. Further, we understand that Pechiney has used all available site characterization data in developing the risk evaluation for the Pechiney site.

In addition, 40 CFR 761.61(a)(3)(i)(E) requires certification by the owner of the property where the cleanup site is located <u>and</u> the party conducting the cleanup. The certification that AMEC Geomatrix has submitted is designed to be signed by both of these parties. However, the certification wording says that the certification is being made "as the Consultant," which is inaccurate wording when applied to the owner. The owner and the consultant shall sign a certification matching the language required in the TSCA PCB regulations.

2. Updated site-specific sampling and analysis plan. Within 15 days after the date of this approval, Pechiney shall submit for USEPA approval an updated sampling and analysis plan for soils, concrete, and asphalt. The plan shall consolidate the sampling proposed in the Application and in Amendments 1, 2, and 3 and shall include the rationale for number and type of samples to be collected for both additional PCB site-characterization and PCB-cleanup verification. The sampling plan shall utilize the "EPA Region 1 Standard Operating Procedure for Sampling Porous Surfaces for PCBs" (EPA SOP) to collect concrete samples. USEPA Analytical Method 1668-B shall be consulted to verify the sample collection method in the EPA SOP is appropriate to collect samples for dioxin-like PCB congeners.

USEPA reserves the right to obtain split or duplicate samples upon request.

3. Onsite disposal of onsite PCB-contaminated concrete and soils. Pechiney shall complete the additional soil and concrete characterization proposed in the Amended Application within 45 days after the date of this approval.

This approval does not cover approval of the cleanup levels and onsite disposal of onsite PCB-contaminated soils and concrete proposed in the Application. Before disposing of onsite soils and crushed onsite concrete containing PCBs at the Pechiney site at levels below a PCB cleanup level to be approved by USEPA, Pechiney shall submit the information required below. Upon review of that information, USEPA will determine if Pechiney's proposed PCB cleanup levels for onsite disposal of onsite soils and crushed concrete

can be implemented as proposed or if those cleanup levels need to be revised. Pechiney shall obtain USEPA's approval of the PCB cleanup levels for soils and concrete at the site.

a. **Cumulative health risk evaluation to include dioxin-like PCB congeners.** Within 30 days after completion of the additional site characterization (including PCB RAP and Amendments 1, 2, and 3 to the Application) for PCBs (Aroclors and PCB congeners) required under this approval, Pechiney shall demonstrate the cumulative health risk from the site addressing all contaminants of concern does not increase above 1×10^{-5}. Due to the age of the releases at the site, dioxin-like PCB congeners (i.e., PCB congeners) may be present in onsite concrete and soils and are, therefore, added to the contaminants of concern. If PCB congeners are detected in onsite concrete and / or soils, Pechiney must demonstrate the PCB congener levels do not increase the overall cumulative risk for the site above 1×10^{-5}. If this risk level is exceeded, Pechiney must propose for USEPA approval cleanup levels for PCBs in concrete and soils that do not pose a risk of injury to health or the environment.

b. **Grading plan for the Pechiney site before remediation.** Within 45 days after the date when Pechiney completes the additional site characterization required in this approval, Pechiney shall submit for USEPA review and concurrence, the grading plan for the site. In general, the site-specific grading plan shall:

1. Identify the location, depth, and PCB concentration (Aroclors and PCB congeners) of all onsite soils proposed for onsite disposal relative to the location and depth of soils that may get disturbed during grading of the site and relative to onsite soils containing total PCB concentrations below the approved PCB cleanup level.

2. Be informed by the results of additional soil and concrete characterization required at the site and described in the Amended Application. See Condition 3a above.

3. Identify the locations for onsite disposal of crushed concrete with PCB concentrations below the approved cleanup level relative to the location of soils contaminated with PCBs above the cleanup level and soils contaminated with solvents (e.g., volatile organic compounds, total petroleum hydrocarbons, Stoddard solvent).

4. Demonstrate that during grading operations PCB contaminated soils located below 5 feet bgs (or at a depth modified by USEPA) and containing PCBs equal to or above the approved cleanup level will not be disturbed and mixed with onsite soils and crushed concrete containing less than the approved cleanup level and less than 1 ppm PCBs.

5. Include the measures that Pechiney will take to prevent spread of PCBs at and above the approved cleanup level throughout or at specific locations at the site if the soil mixing mentioned in Item 4 above occurs.

6. Identify the location of any proposed underground physical barriers that Pechiney may install before grading the site and that are intended to alert others that onsite soils containing high PCB concentrations (e.g., 2,000 ppm) have been disposed onsite.

c. **Soils management plan after remediation.** Within 30 days after Pechiney completes remediation of the site, Pechiney shall submit for review and USEPA approval a post-remediation soil management plan. The plan must describe all the actions that will be taken to ensure proper management and disposal of PCB-contaminated soils, PCB-contaminated concrete, PCB-contaminated asphalt if such materials are encountered during grading, construction, and installation of underground utilities; and after redevelopment, if such materials are encountered during maintenance or repair of underground structures (e.g., utilities) at the site above the PCB cleanup levels approved by USEPA. Such soils, concrete, and / or asphalt must be removed from the site if encountered at the surface and / or at depths that USEPA determines may result in an unreasonable risk of injury to health or the environment.

d. **Revised Appendix C before remediation.** Within 45 days after Pechiney completes the additional site characterization required in this approval, Pechiney must submit a revised Appendix C (Site-Specific Modeling for the Protection of Groundwater).

   Rainfall totals that were used were based on an average rainfall year of 14.8 inches (1914-2007) of which a 25% infiltration rate of approximately 4 inches was used. Since the model was run over a period of 500 years and in order to simulate a more conservative worst case, a suggested 250-500 year recurrence interval for rainfall would be more realistic. In addition, short duration, high intensity rainfall events shall be considered. Can the model simulate 24-hour rainfall events such as 100, 250, 500 year 24-hour recurrence intervals that would produce wetting fronts capable of transporting PCBs?

   In addition, solvents are indicated as being present in the soils around the facility. Have solvents been considered in the mobility and transport of PCBs in soils under both saturated and unsaturated conditions? Can the models factor in the effects of solvents on the mobility of PCBs?

   The revised Appendix C shall be responsive to the questions. The revised Appendix C shall evaluate the potential for PCBs to migrate from crushed concrete when such material is disposed in onsite areas where soils are contaminated with solvents (e.g., chlorinated hydrocarbons, Stoddard solvent, total petroleum hydrocarbons). Appendix C shall explain the fate and transport mechanism involved in the migration of PCBs at depths well below 15 feet bgs. PCBs have been detected at 71 feet bgs (e.g., 0.490 mg / kg). In addition, the revised Appendix C shall indicate the particle size used in the model for the crushed PCB-contaminated concrete proposed for onsite disposal.

e. **Interim cap.** Within 60 to 90 days after the date of this approval or within 15 days after completing cleanup verification sampling, whichever occurs first, Pechiney shall provide a figure to scale depicting the interim cap to be installed at the Pechiney site atop crushed onsite concrete containing PCBs below the approved cleanup level for surface and shallow soils. The figure shall identify the type and thickness of material that will function as an interim cap. The PCB concentration in the cap material shall be below 1 ppm PCBs. The interim cap shall not allow infiltration of water. Although the site is fenced, it is not certain when the site will be redeveloped and the specific industrial / commercial uses for the site have not been finalized.

Pechiney's Proposed Cap

Pechiney has proposed to add a color dye to the waste concrete with PCBs below 5.3 ppm to be disposed onsite within 0 to 5 feet bgs and to place atop that waste crushed onsite-concrete containing PCBs below 1 ppm. If USEPA approves the PCB cleanup levels that Pechiney proposed for concrete and soils, USEPA may consider the proposed cap if (1) a material (e.g., a layer of asphalt) that could prevent water infiltration is placed atop the crushed concrete containing PCBs below 1 ppm, (2) information is provided to USEPA demonstrating no adverse impacts to the environment are expected from the dyes Pechiney proposes to use, and (3) the interim cap is placed after site grading is completed. In addition, Pechiney needs to provide the figure to scale depicting the interim cap requested in this Condition of approval.

4. **Amendment 1 to Application.** Refer to Condition 5 below. In addition, within 15 days after the date of this approval, submit a response to the attached comments (USEPA HQs comments). If Pechiney has responded to any of the attached comments, please include the reference for that response. Amendment 1 to the Application contains responses to some of these comments that USEPA Region 9 included as questions in various e-mail messages containing specific questions about the Pechiney site.

5. **Amendment 2 to Application. Additional proposed concrete and soil sampling for PCB Aroclor and PCB congener analysis.** Pechiney shall conduct the additional soil and concrete sampling and laboratory analysis proposed in Amendment 2 ("Proposed Concrete and Soil Sampling Plan for Coplanar Polychlorinated Biphenyls Former Pechiney Cast Plate Facility", April 2, 2010) as modified by the conditions of approval established below.

a. **PCB congener analysis.** Laboratory analysis of PCB congeners (i.e., dioxin-like coplanar PCBs) shall be conducted using USEPA Method 1668B or the most current revision of this method.

b. **Concrete sampling.** The attached "Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs), Revised April 10, 2008 and prepared by USEPA Region 1 shall be used for collection of additional concrete core samples proposed in Amendment 2 and in other conditions of this approval. Subpart O sampling frequency or spacing may be used in conjunction with the sample collection method in the EPA SOP.

c. **Additional site characterization.** Within 15 days after Pechiney receives the laboratory analysis results for the additional soil and concrete samples proposed in Amendment 2 and any other additional concrete and soil sampling required in this approval, Pechiney shall report this information to USEPA accompanied by a justification demonstrating that PCB Aroclor and PCB congener analysis results for the additional samples do not increase the cumulative risk for the site above 1×10^{-5}. However, if after including these analysis results in revised risk calculations the cumulative risk for the site increases above 1×10^{-5}, Pechiney must propose and justify PCB cleanup levels for concrete and soils for onsite disposal that are protective of human health and the environment. See Condition 3.

d. **Proposed statistical correlations between dioxin-like PCB congeners TEQ and individual Aroclor mixture concentrations.** USEPA is not approving the use of these correlations because it believes that such correlations may not be accurate due to weathering of the original Aroclor mixtures.

6. **Amendment 3 to Application.** Additional proposed concrete sampling for PCB Aroclor analysis. Pechiney shall conduct the additional concrete sampling and laboratory analysis proposed in Amendment 3 ("Proposed Additional Concrete Sampling Plan for Polychlorinated Biphenyls Former Pechiney Cast Plate Facility," April 2, 2010) as modified by Approval Conditions 5.b. and 5.c. above.

7. **Section 6 of the Application, "PCB Remedial Action Plan" (PCB RAP).** USEPA is approving the PCB RAP as modified by the conditions established in this approval.

a. **Determining PCB concentration for offsite disposal.** Soils and concrete at the Pechiney site contaminated with total PCBs above 1 ppm are bulk PCB remediation waste. The as-found (in-situ) PCB concentration in concrete and soils must be used to determine the offsite disposal method and disposal facility. Pechiney shall follow the requirements in 40 CFR 761.61(a)(5) for offsite disposal of PCB remediation waste. The Department of Toxic Substances Control regulates PCBs as a hazardous waste. Pechiney must comply with all state, local, and federal regulations applicable to disposal of PCBs. Section 6.1.1.1 states that concrete containing PCBs above 5.3 ppm and below 50 ppm are a non-hazardous waste. This statement may not be accurate. In addition, concrete at the Pechiney site with PCBs below 50 ppm is still regulated for disposal under TSCA as a bulk PCB remediation waste.

b. **Disposal of PCB remediation waste.** The following describes how PCB remediation wastes shall be disposed offsite and takes into consideration that PCBs at certain concentrations may remain onsite based on PCB cleanup levels to be approved by USEPA at a later date.

   Non-porous surfaces contaminated with PCBs: This remediation waste (e.g., metal piping contaminated with PCBs), if present at the Pechiney site, shall be disposed offsite in accordance with 40 CFR 761.61(a)(5)(i)(B)(2)(ii) and 761.61(a)(5)(i)(B)(2)(iii) depending on the their PCB concentrations.

   Porous surfaces contaminated with PCBs: This category also includes wastes such as piping made of or coated with porous materials; concrete; and asphalt surfaces contaminated with PCBs. These wastes shall be disposed in accordance with 40 CFR 761.61(a)(5)(i).

   Cleanup wastes: Includes among others, non-liquid cleaning materials and personal protective equipment. This waste shall not be disposed as PCB debris as indicated in the Application but as PCB remediation waste in accordance with 40 CFR 761.61(a)5)(v).

c. **Number and location of soil cleanup verification samples:** Within 2 days after removing below ground structures, USEPA shall be notified via phone call and e-mail message of the estimated number of soil samples that will be collected at the site beneath concrete slabs, asphalt, and other below-ground structures (e.g., piping) still to be removed from the site. Written notification shall include a table indicating the number of samples to be collected and a figure identifying their location. If PCBs are detected in these samples, USEPA shall be notified of the analysis results and the estimated number of soil cleanup verification samples that will be collected from remedial excavations beneath below-ground structures (e.g., concrete slabs, asphalt, piping) at the site.

d. **Decontamination of sampling equipment and tools used during cleanup and / or decontamination activities and disposal of decontamination waste and residues.** Movable equipment, tools, and sampling equipment contaminated with PCBs shall be decontaminated by swabbing surfaces that have contacted PCBs with a solvent; a double wash / rinse as defined in 40 CFR Part 761 Subpart S, or applicable decontamination procedures in 40 CFR 761.79. Decontamination waste and residues should be disposed offsite at their existing PCB concentrations in accordance with 40 CFR761.60.

e. **Soil management during below-grade demolition.** An AMEC geologist must be present at the site while below-grade demolition is being performed at the site. In-situ soil samples shall be collected during below-grade demolition activities and submitted for laboratory analysis to determine the concentration at which PCBs may be present.

f. **Dust control and air perimeter monitoring.** Within 30 days before conducting remediation activities (e.g., crushing concrete, excavating soils) at the site, Pechiney shall submit to USEPA an updated Perimeter Air Sampling Plan (Plan). The Plan shall identify the measures that will be taken to mitigate dust. Among other information, the revised plan shall include a season-specific wind rose for the site for the time frame that Pechiney anticipates performing the concrete crushing and other remediation activities (e.g., excavation activity) at the site. Air monitoring instruments shall be located based on this site-specific wind rose. In addition to the wind rose, Pechiney shall submit a figure showing wind flow patterns in the vicinity of the Pechiney site in relation to neighboring communities (e.g., City of Maywood).

g. **Backfilling and grading.** The PCB RAP refers to "reuse" and "recycling" of PCB contaminated concrete. However, the TSCA PCB regulations do not include "reuse" and / or "recycling" of PCB-contaminated concrete. Therefore, placement of PCB-contaminated concrete onsite at the former Pechiney facility is disposal and not reuse or recycling of concrete. USEPA is deferring approval of cleanup levels and onsite disposal of onsite PCB-contaminated soils and concrete until after USEPA reviews the information requested in this approval. This approval does not cover approval of the cleanup levels and onsite disposal of onsite PCB-contaminated soils and concrete proposed in the Application.

h. **Figure 9, PCB Soil Remediation Areas, Former Pechiney Cast Plate, Inc. Facility, dated 07/01/2009.** Phase VI in the figure depicts former Building 114 Press Building (used to turn out aluminum and magnesium forgings, extrusions, and castings. Structures 1A, 1B, 1C and 1D are identified in the legend as "previously decommissioned buried structures (to remain)." USEPA's March 6, 1990 Consent Agreement and Final Order (Docket No. TSCA-09-89-0015) was issued to ALCOA while the facility was in operation. ALCOA ceased operation of the facility in 1997.

   The Final Order states that "[a]t such time that the facility is no longer in operation, or if the facility is sold or transferred, or if any long term shutdown of the facility occurs, full cleanup of PCB contamination in the #10 Press Building shall occur, with PCB Clean Up Policy Standards 40 C.F.R. 761.120 standards being met." Building 114 is referred to in the Final Order also as "the #10 Press Building." It is not certain if structures 1A through 1D were sampled for PCBs. If these structures contain PCBs, onsite disposal of these structures has not been authorized by USEPA. Therefore, this approval requires that structures 1A through 1D be sampled to determine the PCB concentration. Pechiney shall propose the number of samples to be collected from these structures.

8. Routes for transportation of wastes for disposal. Within 30 days before PCB-containing wastes are transported to an appropriate offsite disposal facility, Pechiney shall submit a map depicting the transportation route that will be followed for this purpose. Routes to be used for transportation of PCB-containing wastes (e.g., PCB remediation wastes) for offsite disposal and cleanup activities should be designed to minimize impact to nearby communities already bearing a burden or impact from other environmental issues that affect them. One such community is the community of Maywood.

9. Restrictive covenant: Within 75 days of completion of the PCB cleanup under this approval, Pechiney or the new owner of the property must record in accordance with state law a restrictive covenant for the property that will in perpetuity notify any potential purchaser of the property:

- Of the PCB concentrations left in place at Pechiney in soils and concrete disposed onsite and a survey map clearly depicting the locations or areas including depths at which such materials are found.
- Of the PCB cleanup levels achieved at Pechiney and locations (including depths) at Pechiney where such levels were achieved.
- Of the Pechiney Application dated July 9, 2009 and all Application Amendments.
- Of the USEPA July 2, 2010 letter and enclosure to the letter conditionally approving Pechiney's Application and Amendments to the Application referenced in USEPA's approval letter.
- Of the USEPA letter conditionally approving PCB cleanup levels for soils and concrete that may be disposed onsite at the Pechiney site.
- Of the USEPA-approved Pechiney cleanup report for the former Pechiney Cast Plate Inc. site in Vernon, California.
- Of the Soil Management Plan after Remediation that USEPA has required in its July 2, 2010 conditionally approving Pechiney's Application. See Approval Condition 3.c. in USEPA's July 2, conditional approval letter.

Within 15 days after recording the restrictive covenant, Pechiney must submit to USEPA a certification signed by the owner of the property that he or she has recorded the required instrument.

RTI INTERNATIONAL | Memorandum

Date: November 16, 2009

From: David Brenner, PhD., James Markwiese, PhD, Neptune and Company; Steve Beaulieu, RTI

Subject: Pechiney Cast Plate Inc., Facility

To: Zubair Saleem, PhD., EPA

Introduction and General Comments

We found the application for the risk-based cleanup of soil and concrete containing polychlorinated biphenyls (PCBs) at the Pechiney Cast Plate Inc., Facility to be relatively consistent with the Code of Federal Regulations (CFR), Title 40, Subchapter R, Toxic Substances Control Act (TSCA), Part 761 (40 CFR 761) and to follow Environmental Protection Agency guidance on PCB risk assessment. However, several areas should be investigated further before the risk characterization and remedial application can be approved. The focus of our review was on the scientific defensibility of the proposed approach in the following technical areas:

1. **Proposed Remediation Goals** – The Code of Federal Regulations (CFR) cleanup levels for PCB-contaminated soil and concrete are based on relative use, where use is categorized as low or high occupancy. This assessment generated site-specific cleanup levels based on high occupancy assumptions. The site-specific cleanup levels are, however, contrasted to the less restrictive, low occupancy levels listed in the CFR. Justification is needed for why site-specific levels are higher than applicable standards listed in the CFR.
2. **Site Sampling** – The primary concern involves the adequacy of addressing false negatives in the sampling scheme used to accept or reject material for onsite fill.
3. **Form of PCBs Measured** – PCBs were characterized using EPA Methods 8080, 8081 and 8082, which yields data on Aroclors and total PCBs. Weathering at the site decreases the utility of these data and information on congeners would be better suited for risk characterization.
4. **Protection of the Environment**. Although unnecessary given site conditions, the characterization and proposed remedy should be protective of non-human receptors. The report does not acknowledge that the need for an ecological risk assessment was ever considered.

Each of these issues, presented in order of decreasing importance, is discussed in detail below and, as appropriate, we have provided recommendations (including guidance, web links, and citations) for improving the characterization and remedial action plan.

1. Proposed Remediation Goals

This assessment is concerned with PCB-contaminated soil and concrete. A proposal for remediation is to leave some of this material exposed at the surface. The Code of Federal Regulations (CFR) cleanup levels for PCB-contaminated wastes like this are based on relative use, categorized as low or high occupancy.

According to the CFR, low occupancy is defined as any area where PCB remediation waste has been disposed of on-site and where occupancy for any individual not wearing dermal and respiratory protection for a calendar year is less than 335 hours (an average of 6.7 hours per week). Under the same conditions, high occupancy is defined as 335 hours or more (an average of 6.7 hours or more per week) for bulk PCB remediation waste. According to Section 4.2.3.3, (page 23), the risk based screening levels (RBSLs) derived for the site were calculated as follows,

> "The exposure parameters used to derive the RBSLs are based on reasonable maximum exposure (RME), which is defined by U.S. EPA as the highest exposure that could reasonably be expected to occur for a given exposure pathway at a site (U.S. EPA, 1989). The exposure parameters associated with a RME scenario are therefore highly conservative. For example, it was assumed that an outdoor commercial/industrial worker is present on-site for 250 days/year for 25 years."

Use of RME assumptions therefore qualifies as high occupancy use under the CFR. In other words, the assessment used site-specific cleanup levels based on assumptions that would qualify as high occupancy. For PCB-contaminated soil left exposed at the surface, the high-occupancy cleanup goals listed in the CFR are ≤ 1 ppm PCB without further restrictions [40 CFR 761.61 (a)(4)(i)(A)]. Anything greater than 1 ppm needs to be covered with a cap.

The site-specific cleanup levels for contaminated soil and concrete that can be placed anywhere onsite without restrictions is 5.3 ppm (Section 5.2, page 28, first and second bullets). Furthermore, wastes with this level of contamination are incongruously contrasted to the less restrictive, low occupancy levels listed in the CFR. Section 5.2 (page 28, top of page) states, "[i.e., less than 50 mg/kg as defined in 40 CFR 761.61 (a)(4)(i)(A)].

The comparison between CFR standards and site specific remediation goals should be made relative to CFR high-occupancy levels. More importantly, justification needs to be presented for why site-specific levels are less protective than applicable standards listed in the CFR.

2. Site Sampling

As stated in Section 2.4.3 (page 13),

> "The Geomatrix soil sample locations were selected based on the highest likelihood of impact from former equipment and/or operations and as indicated by previous Alcoa sampling results..."

Although the authors state, (Section 2.3.1, page 9),

> "These data provided sufficient information for characterization and delineation of the PCB-impacted concrete."

there are still large expanses of concrete where samples were not collected. For concrete having PCB concentrations below the calculated risk based screening limits, the proposed remedy is to break it up and use for on-site fill. Areas of concrete that have PCB concentrations above the RBSL will be disposed off-site. At issue is the apparent assumption that areas of concrete not associated with former PCB related activities are assumed to have PCB concentrations less than the calculated RBSLs and therefore can be broken up and re-used as on-site fill. Considering the samples collected, statistics are not presented for the false negative rate. Consequently, it is not possible to determine if the re-use of areas of concrete not sampled will result in PCB concentrations in crushed concrete fill above the calculated RBSLs.

There are two likely resolutions to this problem. First, a uniform grid of fixed dimensions can be laid out over all the concrete foundations and pads. Samples can then be collected from grids for which there is no sample data currently available. As an alternative, the current samples can be considered adequate and a confirmation sampling plan be developed to collect samples from areas where the crushed concrete is used on-site for fill. As long as the concrete fill confirmation samples are below the RBSLs no further actions need to be taken. However, if confirmation samples on the crushed concrete fill show PCB concentrations above the calculated RBSLs then the fill should be removed for off-site disposal.

3. Form of PCBs Measured

The most likely sources of the PCBs at the Site are PCB-containing fluids associated with former hydraulic and extrusion machinery and aluminum cast plate manufacturing activities. Because operations at the site date back to the late 1930's, weathering of PCBs must have occurred over the last eight decades. As discussed in DeGrandchamp and Barron (2005), the toxicity of a particular PCB mixture, whether it is the original commercial Aroclor or weathered environmental mixture, is dependent on the type and quantity of individual PCB congeners present. It is the three-dimensional position of chlorines and the conformation of the biphenyl rings that ultimately govern the toxicity of each of the 209 PCB congeners.

Because the weathering process results in degradation of less-chlorinated congeners, weathering yields a higher proportion of the more highly chlorinated congeners. This recalcitrant fraction that remains is more toxic and more readily taken up by human and non-human receptors. Thus, it is not possible to assign toxicity values to Aroclors that have undergone weathering. Consequently, risks based strictly on Aroclors will underestimate the bioaccumulative potential and the toxicity of a weathered mixture. In order to evaluate the toxicity and health risks

associated with environmental PCB mixtures, the composition and concentration of individual PCB congeners should be considered.

4. Protection of the Environment

The CFR requires protection against risk of injury to the environment from mitigation of PCB contamination. This requirement necessitates consideration of whether ecological receptors could be adversely affected by contamination onsite. As stated in Section 1.1 (page 2), however, site conditions are such that an ecological risk assessment is unnecessary; specifically,

> The present day Site lies within an area zoned as industrial and commercial and covers an area of approximately 26.9 acres. The concrete floor slabs on the Site occupy approximately 600,000 square feet. The remainder of the Site is paved with asphalt (Figure 3).

With that said, the report makes no mention that the need for an ecological risk assessment was ever considered. Some acknowledgement of the lack of habitat for ecological receptors precluding further assessment should be made.

RTI International is a trade name of Research Triangle Institute

Literature Cited

DeGrandchamp RL, Barrron M. 2005. PCB Analyses and Risk Assessment at Navy Installations. Includes Part A - Overview of PCBs, Part B – Calculating Human Health Risk for PCB Sites and Part C – Ecological Risk Assessment for PCB Sites. Prepared for the Navy Environmental Health Center.