

US EPA ARCHIVE DOCUMENT



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**REGION IX**

**75 Hawthorne Street**

**San Francisco, CA 94105-3901**

December 2, 2008

Paul Turek  
Environmental Manager  
Waste Management Kettleman Hills Facility  
35251 Old Skyline Road  
P.O. Box 471  
Kettleman City, CA 93239

**RE: Request for Additional Sampling of Air, Soil, and Biota/Vegetation and  
Analysis for PCB Congeners**

Dear Mr. Turek,

U.S. Environmental Protection Agency Region IX (EPA) requests that Chemical Waste Management (CWM) conduct additional sampling of air, soil, and biota/vegetation samples and analyze these samples for PCB congeners. We are making this request to address specific public comments on the Draft PCB Coordinated Approval we proposed on February 20, 2007.

Attached to this letter is an outline of the specific information we are requesting. Our technical team is available to meet with you to clarify and discuss our needs. Additionally, we request a meeting at your facility during the first or second week of December to identify and select sampling locations. Please submit a draft work plan for these sampling and analysis tasks as soon as possible, but no later than January 15, 2009. To ensure technical consistency during your development of this work plan, CWM shall follow appropriate and applicable EPA guidance and protocols. EPA must approve your work plan prior to any implementation. Before we provide final approval of your work plan, EPA will also be meeting with and seeking input from those individuals who have raised specific risk concerns and have suggested PCB congener analyses. We will ensure that their feedback is shared with CWM so that your work plan can incorporate their input.

In addition, once your first quarter of sampling is completed and analytical data has been collected and validated, CWM shall meet with EPA to discuss how to evaluate this data for possible risk concerns. EPA intends to review and use this additional information in making a final PCB permit decision.

If you should have any technical questions or comments, please contact Patrick Wilson at (415) 972-3354. For all other questions, please contact Kevin Wong at (415) 972-3334.

Sincerely,



Cheryl Nelson  
Manager  
RCRA Facilities Management Office (WST-4)

Attachment

cc: Bob Henry  
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## **Kettleman Hills Facility - PCB Disposal Activity Impact Analysis**

A site-specific, multi-media investigational framework.

**Issue:** The Chemical Waste Management, Inc. - Kettleman Hills Hazardous Waste Landfill Facility is seeking a regulatory permit(s). A Hazardous Waste Permit modification is under consideration by California's Department of Toxic Substances Control (DTSC), and may be combined with a TSCA PCB permit renewal and modification subject to evaluation by U.S. EPA. A coordinated analysis and approval may be considered by the two regulatory agencies.

Community stakeholders and environmental activists have submitted official comments on the administrative record suggesting that retrospective and current facility operations have adversely impacted the health and welfare of the proximate residential community and ecosystem directly adjacent to the facility.

**Objective:** Collect sufficient data to assess the magnitude of potential human and ecological impact to off-site receptors from PCB disposal activities at the Kettleman Hills Facility. Several lines of multi-media and complementary scientific evidence should be pursued to better characterize the degree of potential impact.

### **I. Ambient Air Monitoring Strategy**

The Kettleman Hills Facility has been participating with DTSC in an existing ambient air and depositional monitoring program for PCB releases to air. Three stationary air monitoring stations and one mobile monitoring station have been collecting air samples over the past two years and subjecting the samples for PCB Aroclor analysis. To date, all sample results have been non-detect for PCB Aroclors.

A technical review of the methods and results of that analysis have revealed a number of potentially significant data gaps and uncertainties in the air monitoring approach. These data gaps principally involve the ability of the sampling devices to collect and allow detection of the most-relevant suite of PCBs mixtures or congeners at limits of detection germane to adverse health impacts, and the siting or location of the sampling devices relative to on-site operational disposal activity. Therefore, additional studies should be conducted to collect sufficient air monitoring and depositional data to assess the degree of off-site impact.

- a) Obtain sufficient data for assessment of PCB airborne and depositional impacts from landfill disposal activities. To the extent that investigational activities can characterize the degree of potential impact to the buffer-zone immediately adjacent to the facility, a sound rationale can be developed and shared with the community and stakeholders that more distant human and ecological receptors are then subject to a relatively *de minimus* level of impact from PCB disposal activities at the landfill.
  - i) Human Health Assessment  
Collect additional air samples from a limited number of high-volume sampling devices specifically located in the facility's buffer zone to assess the degree of

PCB depositional impact associated with landfill disposal activities. These samples should be collected over a 1 year window of time, with 12 sampling events occurring throughout that time period. While the sampling devices will collect air samples over the entire month, contaminant analysis will occur but once a month. Sampling devices should be located in generally upwind and downwind locations based, in part, upon historical on-site meteorological patterns. In addition, the releases from on-site landfill disposal activities should be subjected to analysis by an air dispersion & transport model to better predict the potential locations of maximum depositional impact. Air monitoring devices siting and location should remain considerate of these results. Finally, any available retrospective or more-recent buffer zone surficial soil sample results should also be reviewed and considered when selecting the location of the air sampling devices to maximize the likelihood of detecting impacts.

ii) Ecological Assessment

The results from the air sampling approach described above will also be used to assess the degree of impact to ecological receptors. Although direct inhalation impacts are not an exposure pathway currently considered in ecological risk assessments, the depositional impacts on soil and vegetation supporting the food web of ecological receptors remains an indirect pathway of contaminant exposure which should be characterized.

iii) Analytical Framework

PCB samples should be subjected to high-resolution analysis to provide specific data regarding the prevalence of the dioxin-like or co-planar PCB congeners (EPA Method 1668a). In addition, the concentration of total PCBs should be reported from analysis of these samples and, where pattern matches can be made, Aroclors should be specifically identified.

## II. Surficial Soil Sampling Strategy

a) A series of composite soil samples should be collected from the facility buffer zone to characterize the degree of PCBs potentially impacting off-site receptors.

i) Human Health Assessment

A composite soil sampling plan should be developed to assess the degree of PCB impact in the off-site buffer zone. Results from this sampling and analysis effort will be used to assess the magnitude of human health impact from the direct pathways of human exposure. All composited samples should be retained following analysis such that the specific-contribution from any discrete sample can be retrospectively assessed. A composite sampling approach enjoys the advantage of expanding the areal extent of buffer zone characterization while also minimizing resource allocations. Soil sample locations should be informed by results from the

air dispersion and modeling results, proximity to disposal activity and TBD based upon a site visit reconnaissance. Samples should be collected from the surficial lens of soil to characterize the pathways of direct exposure. A limited effort should also be made to characterize potential impacts from soil run-off pathways. Results from surficial soil samples should also be used to assess potential impacts to the food-chain by characterizing the exposure potential and uptake into livestock grazing in the buffer zone. The bioaccumulation and resultant health impacts posed by consumption of impacted livestock can be modeled via algorithms developed to support the indirect pathways of human exposure. Finally, a limited number of background or non-impacted locations should be sampled for purposes of comparison with sampling results from potentially impacted locations.

ii) Ecological Assessment

The results from the surficial soil sampling approach described above will also be used to support characterization of potential impacts to ecological receptors and habitat.

iii) Analytical Framework

PCB samples should be submitted for high-resolution analysis to provide specific data regarding the prevalence of the dioxin-like or co-planar PCB congeners (EPA Method 1668a). In addition, the concentration of total PCBs should be reported from analysis of these samples and, where pattern matches can be made, aroclors should be specifically identified.

### III. Biota/Vegetation Sampling Strategy

- a) A limited number of vegetative cover samples, and a limited number of biota samples should be collected and analyzed to assess the degree of direct and indirect ecological impact in both the buffer zone and discrete on-site locations. In addition to the direct pathway of ecological exposure via ingestion, results from this sampling effort will be used to model impacts to higher trophic-level organisms via the food chain.

Limited on-site vegetative cover and limited on-site biota samples (lower trophic-level prey animals) will allow more robust characterization of potential impacts to site-specific ecological receptors (threatened or endangered). The number of on-site and off-site or buffer zone vegetative and biota samples, their location, and the type of biota sampled is TBD based upon a site visit reconnaissance.

i) Analytical Framework

PCB samples should be submitted for high-resolution analysis to provide specific data regarding the prevalence of the dioxin-like or co-planar PCB congeners (EPA Method 1668a). In addition, the concentration of total



PCBs should be reported from analysis of these samples and, where pattern matches can be made, aroclors should be specifically identified.