

# STATEMENT OF BASIS

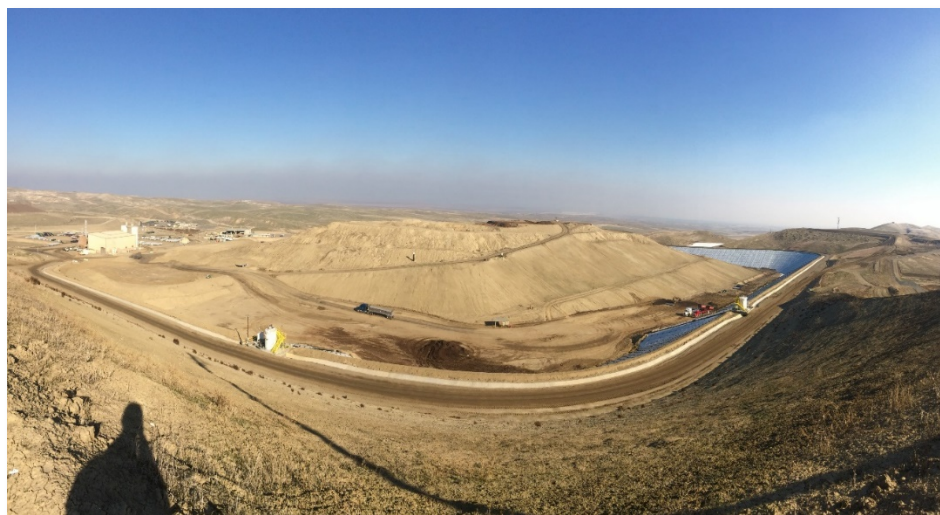
## Final Approval

### Toxic Substances Control Act Polychlorinated Biphenyls (PCB) Commercial Storage Facility and Chemical Waste Landfill

#### Chemical Waste Management, Inc. Kettleman Hills Facility

Kings County, California

U.S. EPA ID: CAT 000 646 117



July 29, 2020

Land, Chemicals & Redevelopment Division  
U.S. Environmental Protection Agency Region 9  
San Francisco, California



For further information on this Statement of Basis document, please contact:

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Most documents referenced in this Statement of Basis and many other documents relevant to this final Approval may be found on [www.regulations.gov](http://www.regulations.gov) [docket number EPA-R09-RCRA-2019-0088]. Several of the key documents may also be found at [www.epa.gov/ca/kettleman-hills](http://www.epa.gov/ca/kettleman-hills) and the Kettleman City Library (104 Becky Pease Street, Kettleman City, California) (Note: Availability of documents at the Kettleman City Library may be delayed due to Covid-19 epidemic-related closures of U.S. EPA's offices and the Kettleman City Library). Please contact the Kettleman Hills Project Manager for information on how to obtain copies of documents referenced in this Statement of Basis.



**JULY 29, 2020**

## **EXECUTIVE SUMMARY**

### **STATEMENT OF BASIS — APPROVAL**

#### **TOXIC SUBSTANCES CONTROL ACT POLYCHLORINATED BIPHENYLS (PCB) COMMERCIAL STORAGE FACILITY AND CHEMICAL WASTE LANDFILL CHEMICAL WASTE MANAGEMENT, INC. KETTLEMAN HILLS FACILITY**

U.S. EPA is issuing an approval to store, treat for disposal, and dispose of polychlorinated biphenyls (“PCB”) waste at Chemical Waste Management, Inc.’s Kettleman Hills Facility. U.S. EPA proposed the Approval on August 27, 2019 and encouraged the public to comment on all aspects of the proposed Approval and its supporting determinations and analyses. U.S. EPA reviewed and responded in writing to all comments received prior to making the decision to issue this Approval. U.S. EPA thanks everyone who submitted comments.

Una traducción al español de este Resumen Ejecutivo se puede encontrar en el Apéndice A de esta Declaración de Bases.

The Kettleman Hills Facility is in Kings County, California, approximately 3.5 miles southwest of Kettleman City. It is a commercial hazardous waste treatment, storage and disposal facility that accepts PCB waste and other types of hazardous wastes. It is approved by U.S. EPA under the Toxic Substances Control Act (“TSCA”) to dispose of PCB waste in Landfill B-18 and to store and treat PCB waste at the PCB Flushing/Storage Unit. The PCB Flushing/Storage Unit has both an enclosed building and an outside containment area. There are also three closed landfills at the Facility which were used for PCB waste disposal — Landfills B-14, B-16, and B-19. These units as well as other storage, treatment, and disposal units at the Facility are permitted by the State of California’s Department of Toxic Substances Control (“DTSC”) under the Resource Conservation and Recovery Act.

The Approval results in the following PCB waste management changes to the Facility compared to its previous TSCA Approvals:

- Increases the TSCA-approved capacity of Landfill B-18 from 10.7 million cubic yards to 15.6 million cubic yards by approving the disposal of PCB waste in constructed and operating Phase III; and
- Sets a maximum PCB waste storage capacity at the PCB Flushing/Storage Unit of 36,420 gallons.

This Approval allows Chemical Waste Management, Inc. to:

- Dispose of PCB waste in all phases of Landfill B-18;
- Store PCB waste for up to one year from its removal from service date in the enclosed building at the PCB Flushing/Storage Unit;



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- Store PCB waste that is within thirty days of its removal from service date in the outside containment area at the PCB Flushing/Storage Unit;
  - Drain and flush PCB-containing electrical equipment at the PCB Flushing/Storage Unit; and
  - Bulk (combine small containers of waste into a larger container) and repackage PCB waste at the PCB Flushing/Storage Unit.
  - Perform bin-top and container-top solidification of incidental liquids at the PCB Flushing/Storage Unit.

To maintain compliance with the applicable TSCA regulations for storage, treatment for disposal, and disposal of PCB waste, the Approval requires Chemical Waste Management, Inc. to:

- Maintain records on Facility operations;
- Regularly inspect and maintain the Facility;
- Maintain and implement a contingency plan to respond to spills or other emergencies;
- Promptly report any PCB spill or emergency that requires implementation of the contingency plan;
- Test groundwater annually from wells monitoring active Landfill B-18 and every five years from wells monitoring closed Landfills B-14, B-16, and B-19 for PCBs and report the results;
- Test leachate annually from Landfills B-14, B-16, B-18, and B-19 for PCBs and report the results;
- Implement an air quality monitoring program that includes four monitoring sites and provide quarterly air monitoring reports.
- Test surfaces quarterly at the PCB Flushing/Storage Unit for PCB contamination and promptly clean up any PCB contamination found at or above 10 micrograms per 100 square centimeters;
- Promptly report any detection of PCBs in groundwater, leachate, air, or on surfaces at the PCB Flushing/Storage Unit;
- Maintain and implement post-closure plans, cost estimates, and financial assurance for post-closure care for closed Landfills B-14, B-16 and B-19;
- Maintain plans, cost estimates, and financial assurance for closure and post-closure care of Landfill B-18;
- Maintain a closure plan, cost estimates, and financial assurance for closure of the PCB Flushing/Storage Unit; and
- Follow public process requirements for many types of modifications to the Approval.



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U.S. EPA grants four waivers of regulatory requirements for PCB landfills. These waivers allow:

- Use of the DTSC-approved groundwater well purge method instead of the method listed in PCB regulations.
- Testing of groundwater using the same parameters and analytic methods required by State permits instead of the methods in the PCB regulations.
- Testing of leachate using the same parameters and analytic methods required by State permits instead of the methods in the PCB regulations.
- Disposal of small containers of ignitable waste in overpacked drums (lab packs) as an exception to the prohibition on the disposal of ignitable waste in PCB landfills in the PCB regulations.

U.S. EPA issues this Approval based in part on its finding that operations of the Kettleman Hills Facility, under the terms and conditions of the Approval, will not pose an unreasonable risk of injury to health or the environment from PCBs. This finding is based on the engineering and operational controls and monitoring requirements included in the Approval and on an assessment of the overarching weight of the scientific evidence regarding the relationship between Kettleman Hills Facility PCB releases and the likelihood and magnitude of adverse health impacts in the surrounding communities. U.S. EPA has analyzed a number of objective, site and media-specific, multidisciplinary scientific investigations which collectively assessed the exposure-threat and quantitative health-risk posed by PCB releases from the Kettleman Hills Facility.

Based upon its comprehensive review, U.S. EPA did not identify PCB concentrations above a level of concern in air, water, vegetation or soils in areas proximate to the Kettleman Hills Facility. In addition, U.S. EPA was not able to derive unacceptable health risk-estimates to either residents or on-site workers from Kettleman Hills Facility PCB releases. Finally, based on the available data, the concentration of PCBs found in environmental media proximate to the Facility are consistent with the concentration of PCBs found in many rural areas of California's Central Valley. These PCB concentrations are also consistent with the concentrations of PCBs found by a separate U.S. EPA investigation in undisturbed wilderness locations within the United States.

U.S. EPA issues this Approval based on its findings that the Kettleman Hills Facility complies with applicable requirements for PCB storage facilities and PCB landfills including meeting applicable design and operational requirements, personnel qualifications, and provision of closure and post-closure plans, cost estimates, and financial assurance.

U.S. EPA reviewed the compliance history of the Kettleman Hills Facility. While the Facility has violated applicable requirements in the past, these violations do not evidence a pattern of noncompliance that demonstrates Chemical Waste Management, Inc.'s unwillingness or inability to achieve and maintain compliance with the regulations applicable to it and its operations at the Kettleman Hills Facility. In addition, the corrective actions that the Facility implemented to address these past violations include physical and operational improvements which reduce the potential for future violations and prevent or contain future releases.

U.S. EPA prepared a Draft Environmental Justice Analysis to document that environmental justice concerns, including past outreach that sought the affected communities' involvement, were considered in the decision process for the Approval. During the public comment period on the



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proposed Approval, it sought community input on the proposed Approval and its supporting documents including the draft Environmental Justice Analysis.

U.S. EPA consulted with U.S. Fish and Wildlife Service to ensure that the Approval does not have an adverse impact on any endangered species. U.S. EPA also consulted with the California Office of Historic Preservation to ensure that the Approval does not adversely impact any historic properties. Finally, U.S. EPA evaluated the project to assure that it conforms to the San Joaquin Valley's plans to attain and maintain the national health-based air quality standards.

The proposed Approval was signed on August 27, 2019. Public comments on all aspects of the proposed Approval and its supporting determinations and analyses were accepted through Friday, November 22, 2019. U.S. EPA held a public meeting on the proposed Approval and its supporting determinations and analysis on October 10, 2019 and a public hearing on November 14, 2019 in Kettleman City. U.S. EPA accepted written and spoken comments at both the meeting and hearing. All comments that were received (both written and spoken) are included in the administrative record for the Approval. U.S. EPA thanks everyone who provided comments on the proposed Approval, spoke at the public hearing, and/or attended the public meeting and hearing. U.S. EPA has provided written responses to all comments received and has modified the proposed Approval and supporting determinations and analysis as appropriate to address the submitted comments. Changes to the proposed Approval and the supporting determinations and analysis made to address comments are discussed in the Statement of Basis and documented in the Administrative Record.

Copies of both the proposed and final Approval, the Statement of Basis and its appendices, the Draft Environmental Justice Analysis, the Updates and Revisions document for the Draft EJ Analysis, the application submitted by Chemical Waste Management, Inc., the Response to Comments document, and other key documents can be found on U.S. EPA's Kettleman Hills project website at <https://www.epa.gov/ca/kettleman-hills>; on [www.regulations.gov](http://www.regulations.gov) [docket number EPA-R09-RCRA-2019-0088]; and from the Kettleman Hills Project Manager listed below. A hard copy of the Approval, this Statement of Basis (including the Environmental Justice Analysis), and the application can be found at:

Kettleman City Library  
104 Becky Pease Street  
Kettleman City, CA 93239  
(559) 386-9804

(Note: Availability of documents at the Kettleman City Library may be delayed due to Covid-19-related closures of U.S. EPA's offices and the Kettleman City Library).



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Additional information about the final Approval and Statement of Basis can be obtained from:

Frances Wicher, Kettleman Hills Project Manager  
Permits Office, Land, Chemicals & Redevelopment Division (LND-4-2)  
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Información en español sobre la Aprobación y la Declaración de Bases se puede obtener por medio de:

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## **ACRONYMS, ABBREVIATIONS, AND FREQUENTLY CITED DOCUMENTS**

AAMP	Ambient Air Monitoring Program
CAA	Clean Air Act
CalEPA	California Environmental Protection Agency
CalRecycle	California Department of Resources Recycling and Recovery
CARB	California Air Resources Board
CBI	Confidential business information
CDPR	California Department of Pesticide Regulations
C.F.R.	Code of Federal Regulations
COC	Constituents of concern
CWM	Chemical Waste Management, Inc.
DTSC	California Department of Toxic Substances Control
ESA	Endangered Species Act
FWS	United States Fish and Wildlife Service
KHF	Kettleman Hills Facility
LCRS	Leachate collection and removal systems
MPars	Detection monitoring parameters
MRP	Monitoring and reporting program
NAHC	Native American Heritage Commission
NAAQS	National Ambient Air Quality Standard
NEIC	National Enforcement Investigations Center
NHPA	National Historic Preservation Act
NOD	Notice of deficiency
NON	Notice of noncompliance
PM <sub>2.5</sub>	Particulate matter less than 2.5 microns in diameter
PM <sub>10</sub>	Particulate matter less than 10 microns in diameter
PCB or PCBs	Polychlorinated biphenyls
PCB F/SU	PCB Flushing and Storage Unit
ppm	Parts per million
RCRA	Resource Conservation and Recovery Act
RWQCB	Central Valley Regional Water Quality Control Board

## ACRONYMS, ABBREVIATIONS, AND FREQUENTLY-CITED DOCUMENTS

SB	Statement of Basis
SJVAPCD	San Joaquin Valley Air Pollution Control District
TSCA	Federal Toxic Substances Control Act
U.S. EPA	United States Environmental Protection Agency
µg/100 cm <sup>2</sup>	micrograms per 100 square centimeters
VOC	Volatile organic compound
WDR	Waste discharge restrictions
WSRA	Wild and Scenic Rivers Act

*Approval:* “Approval, Toxic Substances Control Act PCB Commercial Storage Facility and Chemical Waste Landfill, Chemical Waste Management, Inc. Kettleman Hills Facility, Kings County, California.” U.S. EPA Region 9. July 29, 2020.

*MRP R5-2014-0003:* “Monitoring and Reporting Program R5-2014-0003 for Chemical Waste Management, Inc. Class I/II Waste Management Units Kettleman Hills Facility.” California Regional Water Quality Control Board Central Valley Region. January 16, 2014.

*Operation Plan:* “Hazardous Waste Facility Permit Renewal Application, Operation Plan,” Chemical Waste Management, Inc. Kettleman Hills Facility, Revision 4, July 31, 2019.

*PCB Regulations:* U.S. EPA’s regulations at 40 C.F.R. Part 761 that implement the PCB program under TSCA.

*Proposed Approval:* “Proposed Approval, Toxic Substances Control Act PCB Commercial Storage Facility and Chemical Waste Landfill, Chemical Waste Management, Inc. Kettleman Hills Facility, Kings County, California.” U.S. EPA Region 9. August 27, 2019.

*Renewal Application:* “TSCA Permit Renewal Application, Chemical Waste Management, Kettleman Hills Facility.” Chemical Waste Management, Inc. Revisions 4: dated November 22, 2019.

*State RCRA Permit:* “Hazardous Waste Facility Permit, Permit Number: 02-SAC-03” Department of Toxic Substances Control. Effective June 16, 2003 (modified May 5, 2005, July 25, 2006, September 21, 2007, and May 21, 2014).

*TSCA Operation Plan:* “TSCA Operation Plan, Landfill B-18 Phases I, II, and III; PCB Building and Outside Containment Area.” Chemical Waste Management, Inc. Revision 4: November 22, 2019.

*WDR R5-2014-0003:* “Order R5-2014-0003 Waste Discharge Requirements for Chemical Waste Management, Inc. Class I/II Waste Management Units Kettleman Hills Facility Kings County.” Central Valley Regional Water Control Board. January 16, 2014.

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**STATEMENT OF BASIS — APPROVAL**  
**TOXIC SUBSTANCES CONTROL ACT POLYCHLORINATED BIPHENYLS (PCB)**  
**COMMERCIAL STORAGE FACILITY AND CHEMICAL WASTE LANDFILL**  
**CHEMICAL WASTE MANAGEMENT, INC. KETTLEMAN HILLS FACILITY**

**I. INTRODUCTION AND INFORMATION ON PUBLIC PARTICIPATION**

**A. INTRODUCTION**

This Statement of Basis (“SB”) document provides supporting information and analyses for the U.S. Environmental Protection Agency’s (“U.S. EPA”) Approval of a Toxic Substances Control Act (“TSCA”) polychlorinated biphenyl (“PCB”) Commercial Storage Facility and Chemical Waste Landfill at Chemical Waste Management, Inc.’s Kettleman Hills Facility in Kings County, California. This Approval is based on the application “TSCA Permit Renewal Application, Chemical Waste Management, Kettleman Hills Facility” dated November 22, 2019 (“Renewal Application”) [CWM 2019f] and documents submitted in support of the application. U.S. EPA proposed the Approval on August 27, 2019 [EPA 2019a]. This Statement of Basis also provides a brief description and history of the Kettleman Hills Facility. It also includes U.S. EPA’s responses to all comments received on the proposed Approval. See **Appendix K** “Response to Comments Document”.

**B. PUBLIC PARTICIPATION AND PUBLIC COMMENTS RECEIVED**

U.S. EPA proposed the Approval on August 27, 2019. On August 29, 2020, we published on our webpage a public notice and fact sheet in English and Spanish [U.S. EPA 2019d-g] summarizing the proposed Approval and its basis and announcing a public meeting and hearing on October 10, 2019 and the opening of a public comment period that would run until November 1, 2019. We also mailed or emailed the public notice and factsheet to all post office boxes in Kettleman City and to our mailing list of stakeholders and other interested parties. We encouraged comments on all aspects of the proposed Approval and its supporting determinations and analyses including the draft Environmental Justice Analysis. Subsequently, U.S. EPA provided a revised public notice changing the date for the public hearing to November 14, 2019 because of logistic issues with the hearing room [U.S. EPA 2019h-j]. We also extended the public comment period until November 22, 2019 [U.S. EPA 2019h].

Written comments were accepted on **www.regulations.gov** [docket number EPA-R09-RCRA-2019-0088], by mail or email, or in person at the public meeting and hearing. US EPA provided an opportunity for spoken comments to be submitted at both the public meeting and at the hearing. In total, U.S. EPA received 14 comment letters, emails, or postcards and heard from nine speakers at the public hearing. A copy of each written comment received and the transcript of the public hearing are included in the Administrative Record and are posted on **www.regulations.gov** [docket number EPA-R09-RCRA-2019-0088]. A list of commenters can be found in **Appendix K**.



U.S. EPA thanks everyone who provided comments on the proposed Approval, spoke at the public hearing, and/or attended the public meeting and hearing.

U.S. EPA reviewed, summarized and provided written responses to all comments received during the public comment period and at the public hearing prior to making a final decision on Chemical Waste Management, Inc.'s application to renew and modify its TSCA Approval for the Kettleman Hills Facility. See Appendix K.

We sent a notice of the final Approval to each person who provided contact information (email and/or mailing address) and who submitted comments during the public comment period, including oral comments provided at the public hearing, or requested notice of the final TSCA permit decision.

Copies of both the proposed and final Approval, Statement of Basis, Response to Comments Document, the draft Environmental Justice Analysis and its Updates and Revisions Document, and other key documents can be found on U.S. EPA's Kettleman Hills project website at <https://www.epa.gov/ca/kettleman-hills>; on [www.regulations.gov](http://www.regulations.gov) [docket number EPA-R09-RCRA-2019-0088]; and obtained on request from the Kettleman Hills Project Manager at the address below. Additional information about the Approval and Statement of Basis can be obtained from:

Frances Wicher, Kettleman Hills Project Manager  
Permits Office, Land, Chemicals & Redevelopment Division (LND-4-2)  
U.S. Environmental Protection Agency Region 9  
75 Hawthorne Street  
San Francisco, CA 94105  
Phone Number 415-972-3957  
Email: [wicher.frances@epa.gov](mailto:wicher.frances@epa.gov)

Información en español sobre la Aprobación y la Declaración de Bases se puede obtener por medio de:

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U.S. Environmental Protection Agency Region 9  
Office: 415-972-3512  
Email: [calvino.maria@epa.gov](mailto:calvino.maria@epa.gov)



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## II. BACKGROUND

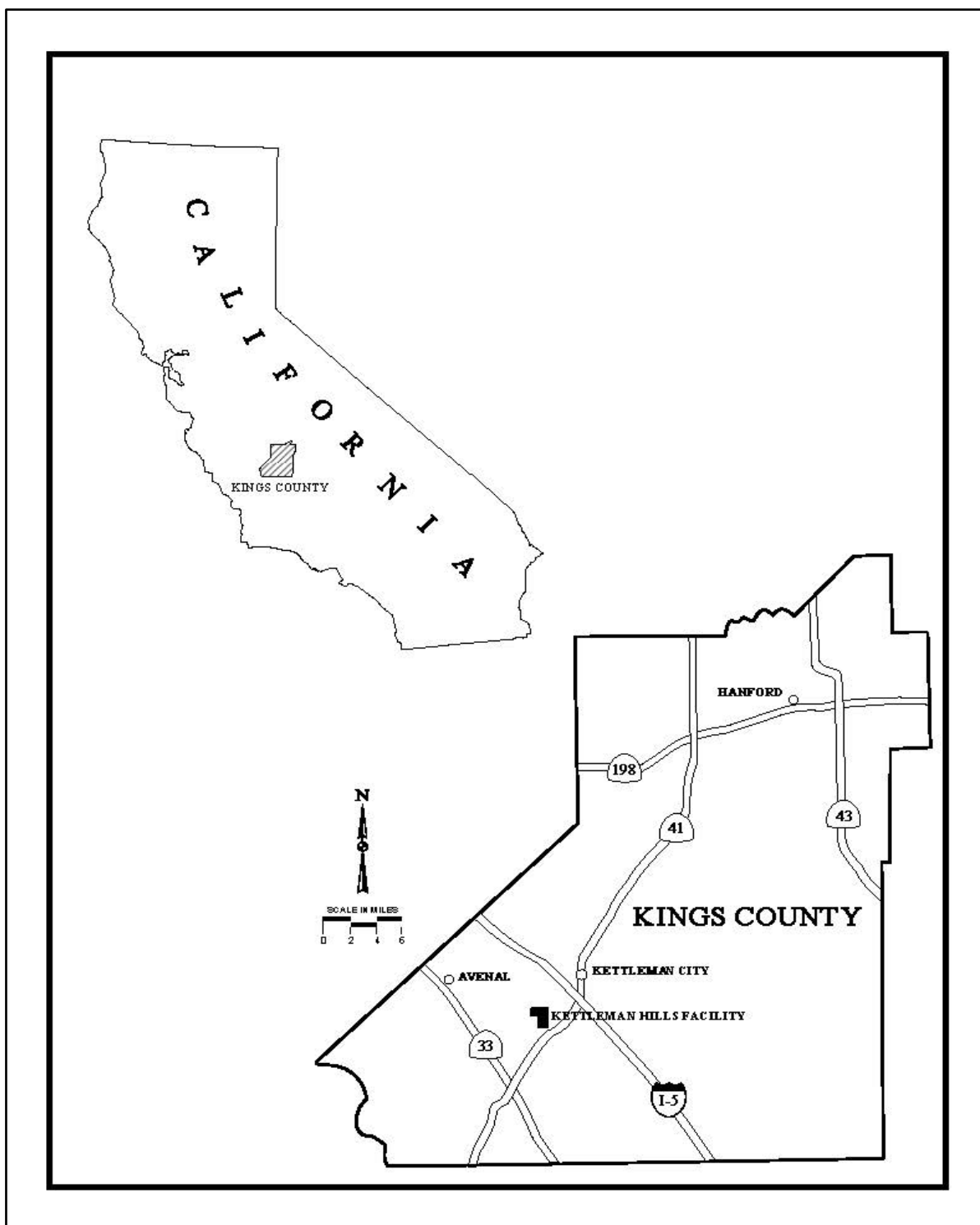
### A. FACILITY DESCRIPTION

The Kettleman Hills Facility is a commercial hazardous waste treatment, storage and disposal facility located in Kings County, California, southwest of the intersection of Interstate 5 and Highway 41, approximately 3.5 miles southwest of Kettleman City, and 6.5 miles southeast of Avenal. See **Figure 1**. The Facility owns and occupies approximately 1,600 acres of property, of which 695.5 acres are permitted by Kings County for the management of federal- and state-listed hazardous wastes, and municipal solid and designated wastes. Of these 695.5 acres, 555 acres are within the fenced operational area [CWM 2019d, p. 3-1]. See **Figure 2**.

The Facility is located on the southwestern edge of the Kettleman Hills, an area that has been used for natural gas and oil exploration and extraction and ranching. The Facility is currently surrounded by general agriculture and grazing lands for several miles in all directions with some oil and gas exploration operations. The closest non-agricultural/oil exploration areas and the nearest group of permanent residents are located in Kettleman City [CWM 2019d, p. 48-1].

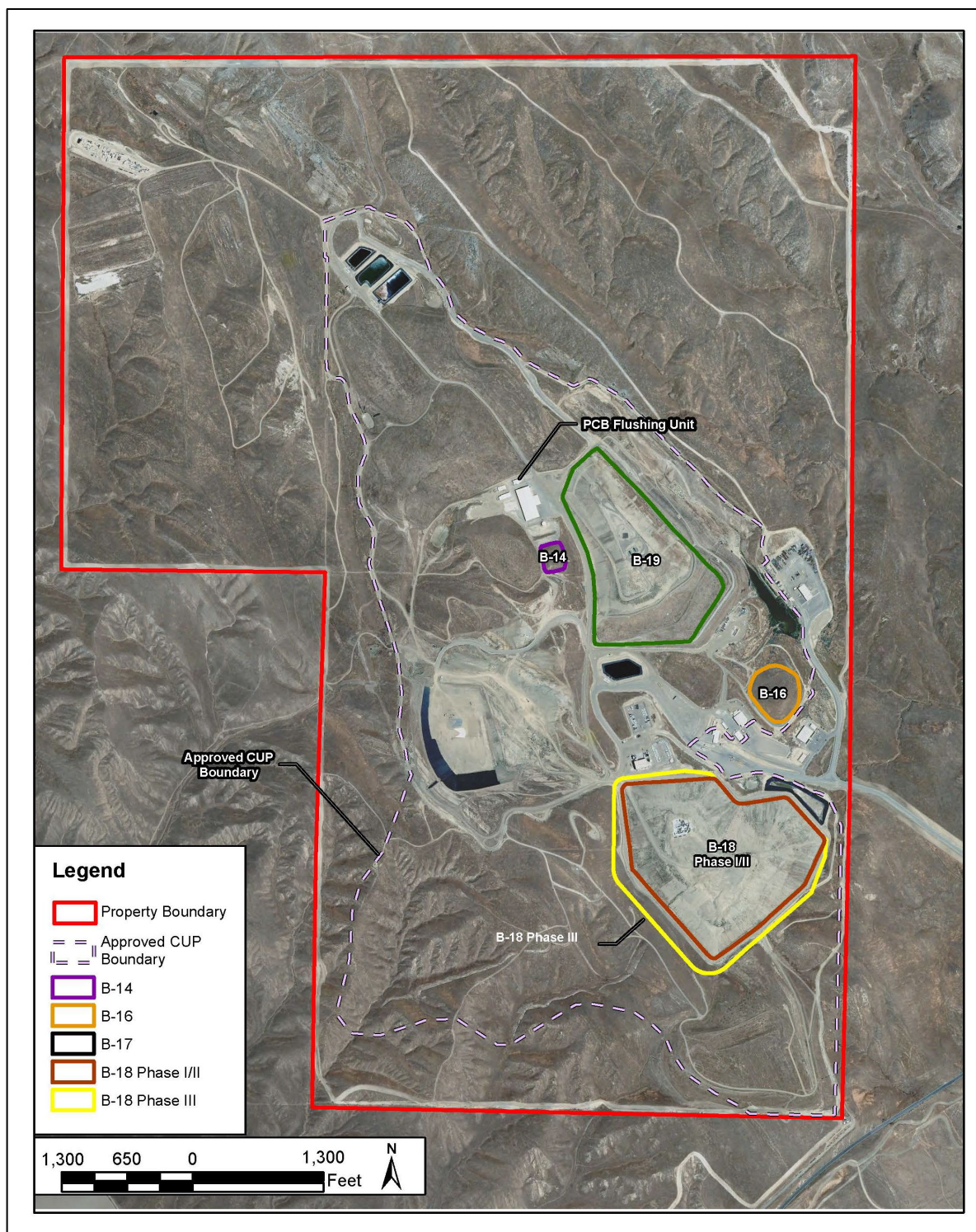






**FIGURE 1 – LOCATION OF THE KETTLEMAN HILLS FACILITY**

Source: RWQCB 2014a (modified).



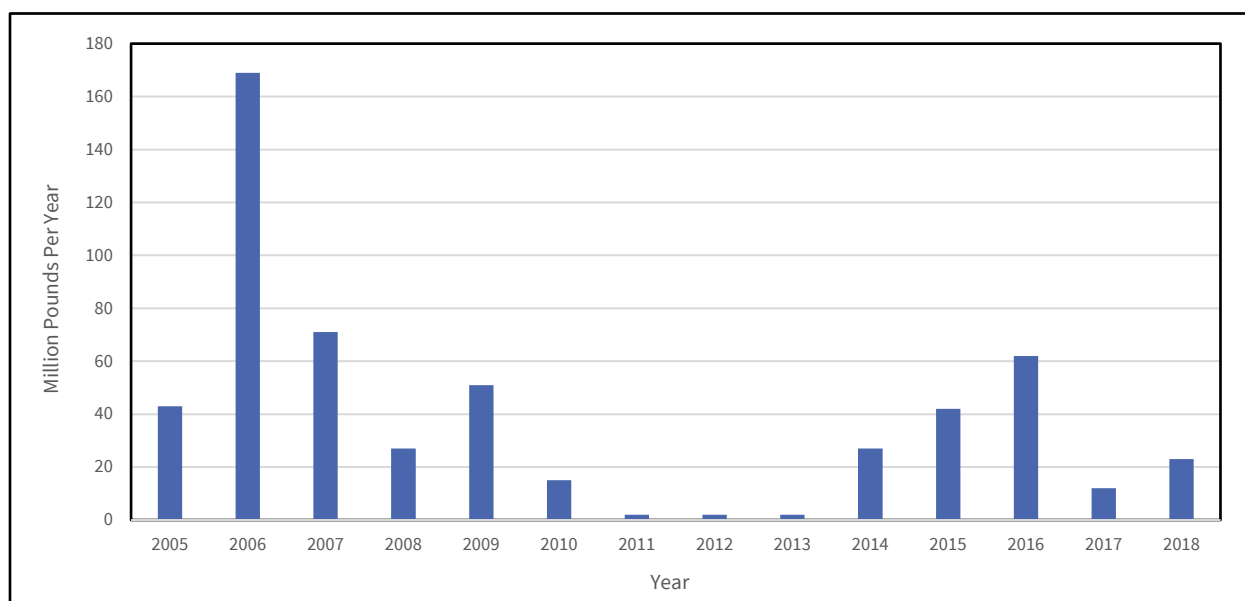
**FIGURE 2 – MAP OF THE KETTLEMAN HILLS FACILITY**

Source: Wenck 2011c (modified)



Most PCB waste received at KHF is soil, concrete, and other types of debris from cleanup sites contaminated with PCBs. Other types of PCB waste received are building debris with PCB-containing material such as caulk and paint, electrical equipment such as transformers and capacitors which contain PCB liquids, fluorescent light ballasts, and liquids containing PCBs (e.g., liquids generated during the decontamination of PCB items) [CWM 2006, 2007, 2008b, 2009b, 2010, 2011, 2012b, 2013, 2014, 2015, 2016, 2017a, 2018d, 2019b]. The annual amount of PCB waste received at the KHF has varied greatly. See Figure 3 for the amount of PCB waste received at KHF from 2005-2018.

**FIGURE 3 – PCB WASTE RECEIVED AT THE KETTLEMAN HILLS FACILITY FROM 2005-2018**



Source: CWM 2006, 2007, 2008b, 2009b, 2010, 2011, 2012b, 2013, 2014, 2015, 2016, 2017a, 2018d, 2019b

## 1. PCB WASTE STORAGE, TREATMENT, AND DISPOSAL UNITS AND ACTIVITIES

There are five waste management units at the Kettleman Hills Facility that are or have been used for the storage, treatment for disposal, or disposal of PCBs.

### a. PCB FLUSHING/STORAGE UNIT

PCB waste storage and treatment for disposal at the Kettleman Hills Facility is conducted at the PCB Flushing/Storage Unit (“PCB F/SU”). The unit consists of a 65-foot by 35-foot enclosed building and a 65-foot by 35-foot outside containment area [CWM 2019d, Table 14-1]. The location of the PCB F/SU is shown on **Figure 2**. Diagrams of the PCB Flushing/Storage Unit are located in the Renewal Application, Attachment 5.





The enclosed building began operations in 1982. It has a roof, walls, and a continuous 1.5-foot-high concrete curb inside and adjacent to the walls of the building. The building's reinforced concrete floor has a vinyl epoxy resin surface and has no drain valves, floor drains, expansion joints, sewer lines, or other openings that would permit liquids to flow from the curbed area [CWM 2019f, p. 27].

One 10,082 gallon above ground storage tank is located within the building for the storage of PCB liquid and flushing solution. The maximum allowable waste level in the tank is 7 feet which corresponds to a maximum working capacity of 5,900 gallons. [CWM 2019f, p. 29].

The outside containment area was constructed in 2010 [ADE 2011]. It has a reinforced concrete floor with a continuous 1.5-foot-high curb and has no drain valves, floor drains, expansion joints, sewer lines, or other openings that would permit liquids to flow from the curbed area. The floor, curb, and sump are coated with vinyl epoxy resin. The outside containment area does not have a roof or walls. [CWM 2019f, p. 27].

The enclosed building at the PCB F/SU is currently used for the storage of TSCA-regulated PCB waste in containers and the tank, the draining and flushing of PCB-contaminated and PCB electrical equipment, and the repackaging and bulking of PCB waste [CWM 2019f, p. 9]. Under the Approval, the bin- or container-top solidification of incidental PCB liquids will be allowed in addition to the current operations. The outside containment area is currently used for the temporary storage of PCB waste consistent with 40 C.F.R. § 761.65(c)(1) (that is, storage of PCB waste that is within 30 days of its removal from service date) and the draining and flushing of PCB-contaminated and PCB electrical equipment [CWM 2019f, p. 9]. Under the Approval, the repackaging and bulking of PCB waste and the bin- and container-top solidification of incidental PCB liquids will also be allowed in the outside containment area.

Under 40 C.F.R. § 761.65(c)(2), which is incorporated into the Approval as Condition V.C.5., CWM is allowed to store non-leaking and structurally-undamaged PCB large high voltage capacitors and PCB-contaminated electrical equipment that have not been drained of free-flowing dielectric fluid to be stored on pallets next to the PCB F/SU. Storage under this section is allowed only when the storage unit has immediately available unfilled storage space equal to 10 percent of the volume of capacitors and equipment stored outside the unit. This section does not limit the time period for storage of an allowed PCB item to 30 days from its date of removal from services; however, § 761.65(a)(1) and Approval Condition IV.C.4. require a PCB item be disposed of within one year of its removal from service date, a requirement that functionally limits storage of an allowed PCB item to less than one year.

#### ***b. CHEMICAL WASTE LANDFILLS***

There is one active chemical waste landfill (that is, a landfill where PCB waste is disposed) at the Kettleman Hills Facility: Landfill B-18. There are three closed chemical waste landfills: Landfills B-14, B-16, and B-19. The location of these four landfills is shown on **Figure 2**. Diagrams of Landfill B-18 can be found in Golder 2019b, Appendix A-1.



Landfill B-18 is permitted as both a solid waste, Resource Conservation and Recovery Act (“RCRA”) and TSCA landfill. It was constructed in three phases. Phase I was constructed in 1991-1992 with hazardous waste disposal beginning in 1992. Phase II was constructed in 1992-1993 with waste disposal beginning in 1994. Phase III was constructed in 2014-2015 with waste disposal beginning in 2015 [Golder 2019b, p. 7, CWM 2019d, Figure 2-1]. All three phases are permitted by the California Department of Toxic Substances Control (“DTSC”) for the disposal of RCRA waste; however, only Phase I and II are currently approved for the disposal of nonliquid PCB waste. The Approval allows disposal of nonliquid PCB waste in Phase III.<sup>1</sup>

As now constructed, Landfill B-18 is 67 acres in area, has a maximum total capacity of 15,600,000 cubic yards inclusive of all disposed waste and cover, and a maximum elevation of 1,018 feet above mean sea level [CWM 2019d, Chapter 2, Attachment 4; Golder 2008, p. 29]. The current TSCA-approved portion of the landfill (Phases I and II) is 53 acres in area with an approved capacity of 10,700,000 cubic yards.

Landfill B-18 is constructed with primary and secondary liner systems; primary, secondary, and vadose zone leachate detection, collection and removal systems; run-on and runoff precipitation collection and holding facilities; and a groundwater monitoring system. More detailed information on Landfill B-18’s various systems is in the “Engineering and Design Report, Landfill B-18, Class 1 Landfill, Phase III Expansion and Final Closure, Kettleman Hills Facility, Kettleman City, California” (Golder Associates Inc., November 2008, Revised August 2011) [Golder 2008] which can be found in the Administrative Record for the Approval.

Kettleman Hills Facility TSCA landfills that have previously received PCB waste include:

- Landfill B-14: 0.8 acres, capacity 6,000 cubic yards, operated from 1982 to 1984, TSCA waste only, closed in 1985.
- Landfill B-16: 5 acres, capacity 290,000 cubic yards, operated from 1983 to 1987, approximately 230,000 cubic yards of TSCA waste only. In 2004, 60,000 cubic yards of non-hazardous waste was disposed of in Landfill B-16 to bring the unit up to final grade, and the unit was closed.
- Landfill B-19: 40 acres developed in four phases (Phase IA, IB, II and III), a mixed RCRA, TSCA, and municipal solid waste/designated waste landfill with a RCRA/TSCA waste capacity of 7,000,000 cubic yards in Phases IB, II, and III. RCRA/TSCA waste phases closed in 2006 [CWM 2019d, Table 42-2].

These three closed landfills are included in Kettleman Hills Facility’s post-closure care plan [Golder 2019b].

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<sup>1</sup> TSCA PCB regulations at 40 C.F.R. § 761.61(a)(5) and § 761.62(a) also allow certain PCB wastes to be disposed of in a RCRA hazardous waste landfill if that disposal is also allowed by the landfill’s other permits. CWM is currently allowed to dispose of certain PCB wastes, mainly PCB remediation waste from sites with U.S. EPA-approved PCB cleanup plans in Landfill B-18 Phase III, under the PCB regulations and its state RCRA permit.



## 2. OTHER WASTE MANAGEMENT UNITS AND ACTIVITIES

The Kettleman Hills Facility is currently operating under a RCRA hazardous waste permit issued by the Department of Toxic Substances Control (“Hazardous Waste Facility Permit, Permit Number: 02-SAC-03”) (“State RCRA Permit”) [DTSC 2003] issued June 16, 2003 and modified to allow construction and operation of Phase III of Landfill B-18 on May 21, 2014.<sup>2</sup> The State RCRA Permit has an expiration date of June 16, 2013; however, Chemical Waste Management, Inc. submitted a timely permit renewal application and continues to operate under the conditions of the 2003 Permit. DTSC is currently reviewing this permit renewal application.

In addition to PCB waste, the Kettleman Hills Facility accepts most types of solid, semi-solid, and liquid hazardous and extremely hazardous wastes except forbidden explosives, compressed gas cylinders (excluding aerosol cans), most radioactive waste, and biological agents or infectious wastes [DTSC 2003, p. 4]. The Facility conducts the following activities: solar evaporation; land disposal; and stabilization, solidification and storage of bulk and drummed wastes.

RCRA and California hazardous waste is stored, processed and disposed of in a number of units at the Facility. These units include:

- Landfill B-18
- Surface Impoundment P-9
- Surface Impoundment P-14
- Surface Impoundment P-16
- Bulk Storage Unit 1
- Bulk Storage Unit 2
- Final Stabilization Unit
- Drum Storage Unit

More information on these units and the activities permitted at each is in the State RCRA Permit and the most recently-submitted RCRA renewal application: “Hazardous Waste Facility Permit Renewal Application, Operation Plan,” Chemical Waste Management, Inc. Kettleman Hills Facility, Revision 4, July 31, 2020 [CWM 2019d].

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<sup>2</sup> California initially received authorization to administer the RCRA hazardous waste management program in lieu of the federal program effective on August 1, 1992 (57 FR 32726 (July 23, 1992)). RCRA state authorization is a rulemaking process by which U.S. EPA delegates the primary responsibility of implementing the RCRA hazardous waste program to individual states pursuant to Section 3006 of RCRA and 40 C.F.R. Part 271. California’s authorized hazardous waste program is established pursuant to the Hazardous Waste Control Law, Chapter 6.5 of Division 20 of the California Health and Safety Code, and the regulations promulgated thereunder at Title 22, Division 4.5 of the California Code of Regulations, 22 C.C.R. §§ 66001 et seq. A facility in California subject to RCRA must comply with the authorized State requirements in lieu of the corresponding federal requirements in order to comply with RCRA. Additionally, such facilities must comply with any applicable Federally-issued requirements and RCRA requirements that are not supplanted by authorized state-issued requirements. The State program is broader in scope than the federal RCRA program because it includes PCBs as a hazardous waste material and imposes requirements on facilities that manage PCBs.



The Kettleman Hills Facility is also permitted by several other State and local agencies including the Central Valley Regional Water Quality Control Board, the San Joaquin Valley Air Pollution Control District, and Kings County. A list of the Facility's current permits is in Table 2 of the Renewal Application.

The Kettleman Hills Facility also disposes of municipal/solid wastes (Class II/III wastes) in Landfill B-17. This landfill is permitted by the California Department of Resources Recycling and Recovery ("CalRecycle"). No RCRA or TSCA waste is allowed to be disposed of in Landfill B-17.

## B. FACILITY PERMITTING HISTORY

U.S. EPA has issued five TSCA approvals or amendments for the disposal and storage of PCB waste at the Kettleman Hills Facility:

- June 29, 1981 – Approval to dispose of nonliquid PCB waste in what would become known as Landfill B-14 [U.S. EPA 1981].
- February 16, 1983 – Approval to dispose of nonliquid PCB waste in Landfill B-16 (amended February 22, 1988 and November 30, 1990) [U.S. EPA 1983].
- February 22, 1988 – Approval to dispose of nonliquid PCB waste in Landfill B-19 and to continue disposal of nonliquid PCB waste in Landfill B-16 (amended November 30, 1990) [U.S. EPA 1988].
- November 30, 1990 – Amendment to the 1983 and 1988 Approval to include PCB storage requirements; to prohibit disposal of PCB waste in the closed Landfill B-14; and to set an expiration date for the 1988 Approval/1990 Amendments of January 1, 1998 [U.S. EPA 1990a; EPA 1990b].
- May 19, 1992 – Approval to dispose of nonliquid PCB waste in Landfill B-18 Phase I and, on approval of the construction certification report, Phase II (Approval granted on December 30, 1993). Approval expired May 19, 1997 [U.S. EPA 1992a; EPA 1992b].

The conditions of both the amended 1988 and 1992 Approvals were administratively extended by CWM's timely submittal of renewal applications in 1997 [CWM 1997a; CWM 1997b]; therefore, the Kettleman Hills Facility continued to operate under the terms and conditions of its amended 1988 and 1992 Approvals until the effective date of the 2020 Approval which is date of signature on the Approval. The 2020 Approval supersedes all five of the previous approvals/amendments. See Approval, section III.D.

A timeline of key waste disposal permitting actions by U.S. EPA, Kings County, the Central Valley Regional Water Quality Control Board, and DTSC (and its predecessor agency, the Department of Health Services) for the Kettleman Hills Facility is given in **Table 1** below.



**TABLE 1 – TIMELINE OF KEY KETTLEMAN HILLS FACILITY HAZARDOUS WASTE AND PCB PERMITTING ACTIONS**

<b>1960-1975</b>	<b>McKay Trucking Company uses site for the disposal of municipal sewage.</b>
<b>1975</b>	Kings County issues a Conditional Use Permit to the McKay Trucking Company for disposal of oilfield wastes on 60 acres. The Central Valley Regional Water Quality Control Board issues waste discharge requirements.
<b>1977</b>	Kings County revises the Conditional Use Permit to include evaporation ponds and land disposal of industrial wastes.
<b>1978</b>	The California Department of Health Services issues a Hazardous Waste Permit to the McKay Trucking Company to allow acceptance of more types of hazardous waste. McKay Trucking changes its name to Environmental Disposal Services, Inc.
<b>1979</b>	Kings County issues a Conditional Use Permit to Environmental Disposal Services, Inc. to operate a Class I (Hazardous Waste) treatment and disposal facility on 211 acres. The Central Valley Regional Water Quality Control Board issues a waste discharge requirements order reclassifying the site as a Class I disposal site. Chemical Waste Management, Inc. purchases the Kettleman Hills Facility from Environmental Disposal Services, Inc.
<b>1980</b>	Chemical Waste Management, Inc. submits a Part A RCRA Application and obtains interim status under RCRA.
<b>1981</b>	U.S. EPA issues a TSCA Approval allowing disposal of nonliquid PCB waste in Landfill B-14.
<b>1982</b>	The California Department of Health Services issues a Hazardous Waste Permit to Chemical Waste Management, Inc. allowing it to operate the Kettleman Hills Facility as a Class I disposal site (modified 1983).
<b>1983</b>	U.S. EPA issues a TSCA Approval allowing disposal of nonliquid PCB waste in Landfill B-16
<b>1985</b>	Kings County issues a Conditional Use Permit to include Landfills B-17, B-18 (Phases I and II), B-19 allowing hazardous waste operations on 499 acres.
<b>1987</b>	The Central Valley Regional Water Quality Control Board issues waste discharge requirements.
<b>1988</b>	California Department of Health Services and U.S. EPA issue a RCRA hazardous waste permit to Chemical Waste Management, Inc. (Permits were revised in 1989 and 1991.) U.S. EPA issues TSCA Approval allowing disposal of nonliquid PCB waste in Landfills B-16 and B-19.
<b>1990</b>	U.S. EPA issues modification to the 1988 TSCA Approval to include the PCB storage facilities and prohibit disposal of PCB waste in Landfill B-14.





**TABLE 1 (CONTINUED) – TIMELINE OF KEY KETTLEMAN HILLS FACILITY HAZARDOUS WASTE AND PCB PERMITTING ACTIONS**

<b>1992</b>	U.S. EPA issues TSCA Approval allowing disposal of nonliquid PCB waste in Landfill B-18, Phase I and Phase II. Disposal in Phase II is allowed only after approval of the construction quality assurance document for Phase II (approved in 1993).
<b>1993</b>	The California Department of Toxic Substances Control (successor organization for the Department of Health Services for hazardous waste permitting) renews 1988 RCRA permit.
<b>1997</b>	Chemical Waste Management, Inc. applies to U.S. EPA to renew its TSCA Approvals for Landfill B-18, Phases I and II and PCB storage unit. (A timely application administratively extends the existing approval conditions.) Kings County modifies Conditional Use Permit to include municipal solid waste operations at Landfill B-19.
<b>1998</b>	The Central Valley Regional Water Quality Control Board issues a revised waste discharge requirements order. Chemical Waste Management converts a portion of Landfill B-19 to a Class II/III industrial non-hazardous/municipal solid waste landfill.
<b>2003</b>	The California Department of Toxic Substances Control issues a 10-year hazardous waste RCRA permit renewal. Chemical Waste Management, Inc. requests EPA to grant a TSCA coordinated approval.
<b>2007</b>	U.S. EPA proposes a TSCA PCB coordinated approval covering Landfill B-18 Phases I and II and PCB storage unit. (A coordinated approval recognizes the State RCRA permit as the primary TSCA approval document.) It holds a public meeting and hearing on proposed coordinated approval.
<b>2008</b>	Chemical Waste Management, Inc. submits a RCRA permit modification request to Department of Toxic Substances Control to expand the Landfill B-18 for RCRA waste. U.S. EPA requests Chemical Waste Management, Inc. carry out the PCB Congeners Study.
<b>2009</b>	Chemical Waste Management, Inc. submits application to U.S. EPA to expand the Landfill B-18 for PCB waste. Kings County modifies Conditional Use Permit to include Landfills B-18 Phase III and B-20 allowing hazardous waste operations on 696 acres.
<b>2011</b>	U.S. EPA informs Chemical Waste Management, Inc. that U.S. EPA would not be doing a Coordinated Approval with Department of Toxic Substances Control.
<b>2013</b>	Chemical Waste Management, Inc. submits RCRA permit renewal application.
<b>2014</b>	Department of Toxic Substances Control approves RCRA permit modification allowing construction and operation of Landfill B-18, Phase III. The Central Valley Regional Water Quality Control Board issues a revised waste discharge requirements order to include approval of Landfill B-18 Phase III.



**TABLE 1 (CONTINUED) – TIMELINE OF KEY KETTLEMAN HILLS FACILITY HAZARDOUS WASTE AND PCB PERMITTING ACTIONS**

<b>2017-2018</b>	Chemical Waste Management, Inc. submits revised approval renewal and permit renewal applications to U.S. EPA and Department of Toxic Substances Control for TSCA and RCRA, respectively.
<b>2019</b>	U.S. EPA proposes a TSCA approval for PCB F/SU and all phases of Landfill B-18 and post-closure care for Landfill B-14, B-16, and B-19. It holds a public meeting and hearing on proposed approval.

Sources: CWM 2018a, CWM 2018f, RWQCB 2014a



### III. FINAL APPROVAL

#### A. SUMMARY OF FINAL APPROVAL

The Approval covers the following units and activities at the Kettleman Hills Facility:

**TABLE 2 – APPROVED UNITS AND ACTIVITIES AT THE KETTLEMAN HILLS FACILITY**

<i>UNIT NAME</i>	<i>TYPE OF UNIT</i>	<i>AUTHORIZED ACTIVITY</i>	<i>MAXIMUM TOTAL CAPACITY</i>	<i>LOCATION IN APPROVAL</i>
<i>Landfill B-18 (Phases I to III)</i>	Landfill	Disposal of nonliquid PCB waste	15.6 million cubic yards	Section VI
<i>PCB Flushing/Storage Unit</i>	Storage Building	Storage, draining/flushing, bulking, repackaging, and solidification	36,420 gallons	Section V
<i>Landfill B-14</i>	Closed Landfill	Post-closure care	Not applicable	Section VII
<i>Landfill B-16</i>	Closed Landfill	Post-closure care	Not applicable	Section VII
<i>Landfill B-19</i>	Closed Landfill	Post-closure care	Not applicable	Section VII

The Approval also includes leachate, groundwater, and air monitoring requirements as well as recordkeeping, reporting, inspection and emergency management (contingency) requirements. Finally, it includes requirements to maintain closure and post-closure plans, closure and post-closure cost estimates, and financial assurance for closure, post-closure, and sudden and non-sudden accidents.

The Approval includes the following changes from the Approvals issued in 1988 (as amended in 1990) and 1992:

- Increases the TSCA-approved capacity of Landfill B-18 from 10.7 million cubic yards to 15.6 million cubic yards by approving the disposal of PCB waste in Phase III.
- Increases the TSCA-approved height of Landfill B-18 from 965 feet to 1,018 feet by approving the disposal of PCB waste in Phase III;
- Increases the TSCA-approved footprint of Landfill B-18 from 53 to 67 acres by approving the disposal of PCB waste in Phase III;



- Sets a maximum storage capacity for the PCB Flushing/Storage Unit of 36,420 gallons in total and specific maximum storage capacities for the enclosed building of 13,200 gallons, the tank of 5,900 gallons, and the outside containment area of 17,320 gallons;
- Allows the bulking and repackaging of PCB waste and bin-top and container-top solidification of incidental liquids within the outside containment area at the PCB Flushing/Storage Unit;
- Allows the bin-top and container-top solidification of incidental liquids within the enclosed building at the PCB Flushing/Storage Unit;
- Requires quarterly testing of the PCB Flushing/Storage Unit for PCB contamination;
- Requires the maintenance and implementation of post-closure plans, cost estimates, and financial assurance for post-closure care for Landfills B-14, B-16 and B-19;
- Requires annual testing for PCBs of groundwater from wells monitoring active Landfill B-18 and every five years for wells monitoring closed Landfills B-14, B-16, and B-19;
- Requires annual testing of leachate from each leachate collection sump at Landfills B-14, B-16, B-18, and B-19;
- Requires the implementation of an air quality monitoring program which includes four monitoring sites and quarterly air monitoring reports; and
- Provides modification procedures that include public process for some approval modifications.

Many of the conditions in the Approval are already incorporated into the Kettleman Hills Facility's State RCRA Permit issued by DTSC and therefore reflect current operating practices at the Facility.

## **B. APPLICATION SUBMITTAL, REQUESTS FOR ADDITIONAL INFORMATION, AND NOTICES OF DEFICIENCIES**

40 C.F.R. § 761.65(d)(3) and § 761.75(c) require owners or operators of commercial PCB waste storage facilities and chemical waste landfills, respectively, to submit certain information to U.S. EPA to obtain approvals to operate. We apply these same requirements to renewal of existing approvals.

Chemical Waste Management, Inc. submitted the initial application for renewal of the 1990 Amended Approval for Landfills B-14, B-16, and B-19 and commercial storage activities on July 1, 1997 [CWM 1997a]. It submitted the initial application for renewal of the 1992 Approval for Landfill B-18 on April 1, 1997 [CWM 1997b]. After DTSC issued the Facility's RCRA Permit in 2003, CWM submitted a request for a coordinated TSCA approval under 40 C.F.R. § 761.77 [CWM 2003]. The request to include the Landfill B-18 Phase III expansion in the coordinated approval was submitted on June 26, 2009 [CWM 2009a].



Chemical Waste Management, Inc. also submitted revised applications or modifications on January 13, 2005 [CWM 2005], June 26, 2009 [CWM 2009a], November 21, 2011 [CWM 2011], July 15, 2017 [CWM 2017a], and April 19, 2018 [CWM 2018b]. All of these earlier applications were superseded by an October 2, 2018 submittal [CWM 2018f]. The October 2018 Application was the basis for U.S. EPA's August 27, 2019 proposed Approval. CWM submitted a revised application on November 22, 2019 [CWM 2019f]. The November 2019 Application is referred to in this document and the Approval as the "Renewal Application"). Changes between the October 2018 Application and the November 2019 Application are listed in Appendix D, Table D-4. As shown in Table D-4, the only significant change between the two Applications is a reduction in the maximum storage capacities at the PCB F/SU.<sup>3</sup>

Since receiving the initial applications in 1997, U.S. EPA has issued several requests for additional information and notices of deficiencies on the applications. The four most relevant for this Approval are the December 2, 2008 request for additional sampling of air, soil and vegetation for PCB congeners [U.S. EPA 2008b]; the December 20, 2016 request to update the 2011 application [U.S. EPA 2016]; the December 21, 2017 notice of deficiency ("NOD") [U.S. EPA 2017c], and the September 2, 2018 request for clarification on operations at the PCB Flushing/Storage Unit and additional information [U.S. EPA 2018h]. The 2008 request resulted in "Final Dioxin-Like Polychlorinated Biphenyl (PCB) Congeners Study Report" [Wenck 2010]. The 2016 request resulted in the submittal of the July 15, 2017 revised application [CWM 2017b and CWM 2017c]. The 2017 NOD, which addressed issues with the 2017 application, resulted in the submittal of the April 20, 2018 application [CWM 2018c and CWM 2018d]. The 2018 request resulted in the submittal of the October 1, 2018 application [CWM 2018f]. CWM further revised its application and submitted it on November 22, 2019 [CWM 2019f].

Copies of CWM's applications, U.S. EPA's requests for information, and CWM's responses can be found in the Administrative Record. A copy of the index to the Administrative Record and information on how to obtain copies of documents can be found in **Appendix C**.

U.S. EPA has used checklists of 40 C.F.R. Part 761 requirements to document that the Renewal Application meets all applicable submittal and approval requirements for commercial storage facilities and chemical waste landfills in the PCB regulations. Copies of these checklists are in **Appendix D**. Note that 40 C.F.R. § 761.75(c)(1) requires submittal of an "initial report" by the owner or operators of chemical waste landfill. CWM's Renewal Application is the "initial report" for the purposes of § 761.75(c)(1).

### **C. REGULATORY REQUIREMENTS FOR CHEMICAL WASTE LANDFILL APPROVALS**

The PCB regulations at 40 C.F.R. § 761.75(a) states that a landfill used for the disposal of PCB waste must be approved by the U.S. EPA, meet the list of specific requirements in § 761.75(b) (unless we waive a requirement under § 761.75(c)(4)) and meet other requirements that we may set under § 761.75(c)(3)(ii). The PCB regulations at 40 C.F.R. § 761.75(c) describes the process to obtain the required approval.

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<sup>3</sup> The November 2019 Renewal Application included the Facility's revised RCRA part B application "Hazardous Waste Facility Permit Renewal Application, Operation Plan," dated July 31, 2019 [CWM 2019d]. See CWM 2020c.



## **1. TECHNICAL AND OPERATIONAL REQUIREMENTS FOR CHEMICAL WASTE LANDFILL UNDER 40 C.F.R. §761.75(b)**

40 C.F.R. § 761.75(b) includes a list of technical and operational requirements for chemical waste landfills. The technical requirements include minimum standards for soils underlying the landfills, synthetic membrane liners (when required), site hydrologic conditions, flood protection, topography surface and groundwater monitoring, and leachate collection. The operational requirements include development and submittal of an operation plan with specific elements, restrictions on the type and placement of waste in the landfill, recordkeeping, and provision of support facilities.

U.S. EPA has evaluated the Renewal Application and TSCA Operation Plan [CWM 2019f & g] for compliance with each of these technical and operational requirements and has documented the results in the “Review Checklist for 40 C.F.R. Part 761 Requirements for Chemical Waste Landfills” found in **Appendix D-1**. As documented in this checklist, the Renewal Application and TSCA Operation Plan comply with each applicable Part 761 requirement except for few operational provisions from which Chemical Waste Management, Inc. has requested waivers under 40 C.F.R. § 761.75(c)(4). These waiver requests are discussed in the next section.

## **2. WAIVERS UNDER 40 C.F.R. § 761.75(c)(4)**

Under 40 C.F.R. § 761.75(c)(4), an owner or operator of a chemical waste landfill may submit information in its application that operation of the landfill will not present an unreasonable risk of injury to health or the environment from PCBs if a technical or operational requirement in 40 C.F.R. § 761.75(b) is not met. U.S. EPA may waive the requirement based on the submitted information and any other available information if it agrees that the requirement is not necessary to protect against such a risk.

Chemical Waste Management, Inc. requested the waiver of five 40 C.F.R. § 761.75(b) requirements [CWM 2019f, section 13.2]. Four of these requests are for renewals of waivers granted in the 1992 Approval. In most cases, it requested to use an alternative method to comply with the PCB regulations rather than to waive the requirement entirely. We proposed to grant four of these waiver requests and determined that fifth waiver request was unnecessary. No comments were received opposing these four waiver. U.S. EPA, therefore, grants CWM waiver requests as described below.

### ***a. PURGING OF GROUNDWATER MONITOR WELLS***

40 C.F.R. § 761.75(b)(6)(ii)(B) requires that groundwater monitoring wells at chemical waste landfills be pumped to remove the volume of liquid initially contained in the well before a sample for analysis is taken. Removal of water from a groundwater monitoring well prior to sampling the well is known as “purging”.

Chemical Waste Management, Inc. currently uses a different purging procedure at the Kettleman Hills Facility than the one in 40 C.F.R. § 761.75(b)(6)(ii)(B) and requested a waiver to use its current method. The current purging method is described in Section 6.2.4. of the RWQCB-



approved 2014 “Revised Site-Specific Groundwater Monitoring Plan Class I Waste Management Units, Kettleman Hills Facility, Kings County, California” [AMEC 2014] and summarized in the Renewal Application on p. 30. It is the same purge method in the 2001 Kettleman Hills site-specific monitoring plan [Geosyntec 2001] approved by DTSC. At the request of DTSC, CWM evaluated this purge method [Geomatrix 2007; DTSC 2008; AMEC 2008]. The evaluation concluded that this purge method provides a sample that is representative of in-situ groundwater conditions near the well [Geomatrix 2007, p. 12].

The requested well purging method provides representative samples of groundwater underlying the chemical waste landfills at the Kettleman Hills Facility, and its substitution for the method in the PCB regulations will not pose an unreasonable risk of injury to health or the environment. U.S. EPA therefore grants a waiver of the use of well-purging method in 40 C.F.R. § 761.75(b)(6)(ii)(B) and requires in its place the use of the procedures in “Groundwater Field Sampling Plan” in the *Site-Specific Groundwater Monitoring Plan, Class I Waste Management Units*, April 2014 [AMEC 2014]. See Approval Condition VIII.B.2.

***b. GROUNDWATER SAMPLING AND ANALYSIS METHODS AND PARAMETERS***

40 C.F.R. § 761.75(b)(6)(iii) requires, at a minimum, that all groundwater samples from chemical waste landfills shall be analyzed for four specific parameters (PCBs, pH, specific conductance, chlorinated organic compounds) using the sampling methods and analytical procedures specified in 40 C.F.R. Part 136 as amended in 41 FR 52779 (December 1, 1976).

Chemical Waste Management, Inc. requested a waiver to substitute the parameters listed in the Kettleman Hills Facility’s Waste Discharge Restrictions Order (“WDR”) [RWQCB 2014a] and its incorporated WDR Monitoring and Reporting Program (WDR MRP) [RWQCB 2014b] and to use SW-846 Methods 6010, 8260, 8270, 8082, 8081, and other methods as required for those required by 40 C.F.R. § 761.75(b)(6)(iii) for the testing of PCBs and chlorinated organic compounds in groundwater samples.

As a condition of the Approval, U.S. EPA is requiring CWM to analyze groundwater samples from wells monitoring the Facility’s chemical waste landfills for PCBs using Test Method 8082 or 8082A<sup>4</sup> (the latest version of Test Method 8082). See Approval Condition VIII.B.2. These test methods are the analytic methods for PCBs in SW-846,<sup>5</sup> U.S. EPA’s official compendium of methods for use in complying with RCRA regulations. Test Method 8082 is the method generally required in the PCB regulations for testing for PCBs in all types of media including water (see, for example, 40 C.F.R. § 761.272). It is also the test method required by DTSC and RWQCB for analyzing groundwater for PCBs at the Kettleman Hills Facility. See State RCRA Permit, Condition III.4.B. [DTSC 2003] and WDR MRP, Table 2 [RWQCB 2014b].

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<sup>4</sup> In its proposed Approval, U.S. EPA required CWM to use of Test Method 8082A. CWM requested that it be allowed to also use Test Method 8082 because the California Environmental Laboratory Accreditation Program (“CA ELAP”) only certifies California laboratories to utilize Test Method 8082 and CWM uses CA ELAP-certified laboratories for required PCB analyses. U.S. EPA is allowing the use of Test Method 8082 in addition to Method 8082 because both methods are allowed by the PCB Regulations. See response to comment **B-4**.

<sup>5</sup> <https://www.epa.gov/hw-sw846/sw-846-compendium>





Test methods in 40 C.F.R. Part 136 are used to comply with Clean Water Act requirements. Additionally, the test methods in Part 136 have been extensively updated since 1976. Maintaining the testing requirement as written in 40 C.F.R. § 761.75(b)(6)(iii) would mean requiring testing for PCBs using outdated methods from a different media program.

U.S. EPA finds that substituting the most current version of the PCB test method recommended/required by the Agency for determining compliance with solid waste and PCB disposal requirements for outdated methods from a different media program will provide the most reliable measure of PCB concentrations in groundwater at the Kettleman Hills Facility and therefore does not present an unreasonable risk of injury to health or the environment from PCBs.

As a condition of the Approval, U.S. EPA is also requiring CWM to test all groundwater samples for the Detection Monitoring Parameters (MPars) listed in WDR MRP Table 2 using Test Method 8260B as substitute for the monitoring for chlorinated organic compounds in § 761.75(b)(6)(iii) using the test methods in 40 C.F.R. Part 136. Chlorinated organic compounds are no longer listed as such in 40 C.F.R. Part 136. The closest similar parameter still listed in Part 136 is “purgeable halocarbons”, a set of 29 halogenated compounds that is tested for using EPA Wastewater Test Method 601. The MPars include each of these 29 compounds. See 40 C.F.R. Part 136, Appendix A. The MPars are waste constituents, reaction products, hazardous constituents and physical parameters that provide a reliable indicator of a release from a waste management unit such as a landfill and for Kettleman Hills Facility are primarily chlorinated organic compounds [RWQCB 2014b, Condition C.2.].

As a condition of the Approval, U.S. EPA is also requiring testing for constituents of concern (COC) in lieu of the MPars every five years. These COC are listed in WDR MRP, Table 1. [RWQCB 2014b] The required U.S. EPA test methods are also listed in this table. Both DTSC and RWQCB currently require COC testing every five years. See State RCRA Permit, Condition III.4.B. [DTSC 2003] and WDR MRP, Condition C.1 [RWQCB 2014b]. The constituents of concern include all the MPars and a wide variety of other compounds.

U.S. EPA finds that substituting testing for the Detection monitoring parameters/constituents of concern in the WDR Monitoring and Reporting Program [RWQCB 2014b] using hazardous-waste specific test methods for the outdated “chlorinated organic compounds” parameter in the PCB regulations will provide a more reliable measure of chlorinated compounds in groundwater at the Kettleman Hills Facility and therefore will not present an unreasonable risk of injury to health or the environment from PCBs.

### ***c. LEACHATE SAMPLING AND ANALYSIS METHODS AND PARAMETERS***

40 C.F.R. §761.75(b)(7) requires leachate collection systems for a chemical waste landfill be monitored monthly for quantity and physicochemical characteristics of leachate and the sampling methods and analytical procedures used to test leachate comply with those specified in 40 C.F.R. Part 136 as amended in 41 FR 52779 (December 1, 1976).





Leachate at Kettleman Hills Facility is tested for two purposes: as part of the groundwater protection program (see WDR MRP, Condition D.3. [RWQCB 2014b]) and to determine the appropriate treatment and disposal method for the leachate (see TSCA Operation Plan, “Leachate Collection Systems” [CWM 2019g]). All leachate systems at operating and closed landfills at Kettleman Hills Facility are checked regularly for the presence of liquid in the sumps and the quantity of leachate removed, if any, recorded. See Operation Plan, Chapter 31 Inspection Program Plan, Table 31-3 [CWM 2019d] and Approval Conditions VI.E.3.d and e.

For groundwater protection purposes, U.S. EPA is waiving the requirement for the monthly testing of leachate in 40 C.F.R. §761.75(b)(7) and instead requiring annual testing of leachate for PCBs, pH, specific conductance, and MPars. Annual testing is consistent with the Facility’s current WDR (see WDR MRP, Condition D.3.) and State RCRA Permit (page 29). PCBs have been detected in only four leachate samples at the Kettleman Hills Facility since 1995 [CWM 2018h].<sup>6</sup> Given the rarity of PCB detection in recovered leachate, annual sampling is sufficient to identify any threat to groundwater from PCBs leaching from the Facility’s landfills.

For the same reasons discussed above for the testing of groundwater, U.S. EPA is requiring the leachate be tested annually for PCBs using Test Method 8082 or 8082A and MPars using Test Method 8260B. See Approval Condition VI.E.5.a. and VII.B.3. U.S. EPA finds that substituting these parameters and test methods for those required by 40 C.F.R. §761.75(b)(7) will provide a more reliable measure of their concentrations in leachate and therefore this substitution does not present an unreasonable risk of injury to health or the environment from PCBs.

For disposal purposes, all leachate removed from the hazardous waste landfills is considered a hazardous waste containing PCBs under the RCRA regulations at 40 C.F.R. Part 261. See Approval Condition VI.E.2.

#### ***d. SUPPORTING FACILITIES - FENCING***

40 C.F.R. § 761.75(b)(9) requires that a six-foot woven mesh fence be placed around the site to prevent unauthorized persons and animals from entering.

Chemical Waste Management, Inc. requested that U.S. EPA approve its current fencing as meeting this requirement and to not require separate fencing around the PCB Flushing/Storage Unit and Landfill B-18. Currently, the entire Kettleman Hills Facility’s operations area (shown on **Figure 2**) is surrounded by an approximately 6-foot high chain link fence.

U.S. EPA does not believe that a waiver of this requirement is necessary as it does not interpret 40 C.F.R. § 761.75(b)(9) to require each TSCA unit at a site to be individually fenced if the site as a whole has fencing that prevents unauthorized persons and animals from reaching the TSCA units. The fencing already present at the Kettleman Hills Facility is sufficient to meet this requirement.

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<sup>6</sup> PCBs were detected in leachate from Landfill B-19 in 1995 at a concentration of 0.0019 milligrams per liter (mg/l) (0.0019 ppm), in leachate from Landfill B-18 Phase IA also in 1995 at a concentration of 0.0013 mg/l (0.0013 ppm), in B181B Leachate Tank in 2009 at 0.0011 milligrams/kilogram (mg/kg) (0.0011 ppm), and in B181A Leachate Tank in 2010 at 0.092 mg/kg (0.092 ppm) [CWM 2018i].



Note: The Facility's 1992 Approval included a temporary waiver of the fencing requirements because the fence was under construction at the time the Approval was issued [U.S. EPA 1992b, p. 8].

***e. DISPOSAL OF IGNITABLE WASTES IN LANDFILL B-18***

40 C.F.R. § 761.75(b)(8)(iii) prohibits the disposal of ignitable wastes in chemical waste landfills.

Chemical Waste Management, Inc. requested renewal of its existing waiver of this requirement to allow the disposal of small containers of hazardous waste in overpacked drums (lab packs) in Landfill B-18. It did not request to be allowed to dispose of any other types of ignitable waste in Landfill B-18.

Under its current State RCRA Permit (p. 27) and 1992 TSCA Approval, Attachment E, the only ignitable waste that can be disposed of in Landfill B-18 is small containers of hazardous waste in overpacked drums (lab packs) that meet the provisions of 40 C.F.R. § 264.316 and 22 California Code of Regulations (CCR) § 66264.316. All other types of wastes which exhibit the characteristic of ignitability as listed in 40 C.F.R. § 261.21 and 22 CCR § 66261.21 (liquid, solid, compressed gas, or oxidizers) are prohibited.

In its waiver application (Renewal Application, Section 12.1.5), CWM stated its belief that the purpose of 40 C.F.R. § 761.75(b)(8)(iii) is to prevent the disposal of significant quantities of ignitable liquid material which may create a potentially hazardous situation. It also stated that the overpacking requirements of the 40 C.F.R. § 264.316 and 22 CCR § 66264.316 effectively eliminate the possibility that any ignitable waste placed in the landfill would ignite or otherwise react adversely with PCB articles or any other TSCA or RCRA waste placed in the landfill and concluded that the overpacking of ignitable wastes provides adequate protection to prevent unreasonable risk of injury to health or the environment.

U.S. EPA agrees that small quantities of ignitable waste when overpacked to meet the requirements of 40 C.F.R. § 264.316 and 22 CCR § 66264.316 are unlikely to ignite or react in the landfill in a manner that would present any unreasonable risk of injury to health or the environment. U.S. EPA, therefore, grants a limited waiver of the 40 C.F.R. § 761.75(b)(8)(iii) prohibition on placing ignitable waste in Landfill B-18 and has included Approval Condition VI.C.1. in the Approval to implement this waiver.

**3. APPLICATION REQUIREMENTS FOR AN APPROVAL FOR A CHEMICAL WASTE LANDFILL**

40 C.F.R. § 761.75(c) lists the information that must be submitted to U.S. EPA to obtain an approval to dispose of PCB waste in a chemical waste landfill. § 761.75(c)(1) requires the owner or operator of the chemical waste landfill to submit an "initial report" that includes the information specified in this Part 761 section. Chemical Waste Management, Inc. submitted the latest version of Renewal Application on November 22, 2019. As noted before, the Renewal Application functions as the "initial report" for the purposes of § 761.75(c)(1). We have reviewed the Renewal



Application and found that it includes all the required information. Our finding is documented in the “Review Checklist for 40 C.F.R. Part 761 Requirements for PCB Chemical Waste Landfills” in **Appendix D-1**.

#### **4. REGULATORY REQUIREMENTS FOR CHEMICAL WASTE LANDFILL APPROVALS (40 C.F.R. § 761.75(c))**

40 C.F.R. § 761.75(c)(6) requires that an approval for a chemical waste landfill be in writing and signed by the Regional Administrator (or his designee) and state all requirements applicable to the landfill and include:

- A finding that the chemical waste landfill and its operations meet all the requirements in § 761.75(b) except for those that are waived under § 761.75(c)(4) [§ 761.75(c)(3)(i)];
- The inclusion of any other requirements that the U.S. EPA finds are necessary to ensure that operation of the chemical waste landfill does not present an unreasonable risk of injury to health or the environment from PCBs [§ 761.75(c)(3)(ii)]; and
- The designation of the persons who own and who are authorized to operate the chemical waste landfill [§ 761.75(c)(5)].

We have documented in the “Review Checklist for 40 C.F.R. Part 761 Requirements for PCB Chemical Waste Landfills” in **Appendix D-1** that Landfill B-18 and its operations meet all the requirements of § 761.75(b) except for those few that we are waiving and replacing with alternative compliance requirements. We have also provided a summary of the required findings in Appendix A of the Approval.

We have added a number of additional requirements to the Approval under the “omnibus” provision in § 761.75(c)(3)(ii), including requirements for closure and post-closure care and financial assurance, that we find are necessary to ensure that operations of Landfill B-18 do not present an unreasonable risk of injury to health or the environment from PCBs. We discuss these omnibus requirements in **section III.G**. We have listed and provided a justification for each omnibus requirement in **Appendix E**.

The Approval designates Chemical Waste Management, Inc. as the owner and operator of the Kettleman Hills Facility. See Approval Condition III.A.

#### **D. REGULATORY REQUIREMENTS FOR PCB COMMERCIAL STORAGE FACILITY APPROVALS**

40 C.F.R. §§ 761.65(b)(2) and (d) together require all commercial storers of PCB waste to apply for and obtain approval from U.S. EPA to operate a PCB waste storage facility. A “commercial storer of PCB waste” is defined in § 761.3 as an owner or operator of a facility that is subject to the PCB storage unit standards in § 761.65(b)(1) or (c)(7) or meets the alternate storage criteria of § 761.65(b)(2) and who engages in storage activities involving either PCB waste generated by



others or that was removed while servicing the equipment owned by others and brokered for disposal. The PCB waste storage operations at the Kettleman Hills Facility qualify Chemical Waste Management, Inc. as a commercial storer of PCB waste. 40 C.F.R. § 761.65(d) includes several options that could be used to approve PCB waste storage at the Kettleman Hills Facility: § 761.65(d)(2), § 761.65(d)(6), and § 761.65(d)(7).

40 C.F.R. §§ 761.65(d)(2) lists the determinations that U.S. EPA must make in order to issue a PCB storage approval under this section. These determinations cover the applicant's qualifications, the facility's capacity and design, a closure plan, financial assurance for closure, the risk of injury to health or the environment from the facility's operations, and the applicant's compliance history. A more detailed discussion of these determinations is in **section III.D.2.a.** below.

40 C.F.R. § 761.65(d)(6) provides that storage areas at RCRA-permitted facilities *may* be exempt from the separate TSCA storage approval under § 761.65(d)(2) upon a showing to the Regional Administrator's satisfaction that the facility's existing RCRA closure plan is substantially equivalent to this PCB regulation's closure plan standards, its closure cost estimate and financial assurance demonstration account for maximum PCB waste inventories, and the requirements of § 761.65(d)(3)(i) through (d)(3)(v) and (d)(3)(vii) are met. Section 761.65(d)(3) lists information that must be included in an application for a PCB waste storage approval. More detail on the information required in PCB storage applications is in **section III.D.1.** and "Review Checklist for 40 C.F.R. Part 761 Requirements for PCB Commercial Storage Facilities" in **Appendix D-2.**

40 C.F.R. § 761.65(d)(7) provides that storage areas ancillary to TSCA-approved disposal facilities *may* be exempt from a separate approval under § 761.65(d)(2) provided certain conditions are included in the TSCA disposal approval. These approval conditions include an expiration date for the Approval, closure and financial responsibility requirements for the storage unit, and operator qualifications. More information on the provisions of § 761.65(d)(7) can be found in "Review Checklist for 40 C.F.R. Part 761 Requirements for PCB Commercial Storage Facilities" in **Appendix D-2.** In 1990, we used this provision to include the PCB storage activities in the Approvals for Landfills B-16 and B-19 [U.S. EPA 1990a].

Approval requirements under §§ 761.65(d)(6) and (d)(7) are not as extensive as those under § 761.65(d)(2). U.S. EPA, therefore, chose to evaluate the application for PCB waste storage at the PCB Flushing/Storage Unit under the requirements of § 761.65(d)(2) as the most conservative approach for ensuring that the PCB waste storage operations at the Kettleman Hills Facility do not pose an unreasonable risk of injury to health or the environment. This choice is also based on the volume of storage (36,420 gallons) and the type of waste handling operations (drainage, flushing, repackaging, bulking, and solidification) that Chemical Waste Management, Inc. has requested to be approved for the Unit.<sup>7</sup> Additionally, this choice is consistent U.S. EPA's approval of the storage provisions pursuant to § 761.65(d)(2) in U.S. Ecology Nevada's TSCA storage, treatment, and disposal approval [U.S. EPA 2012b]. U.S. Ecology Nevada is the only other landfill approved

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<sup>7</sup> This requested maximum storage capacity is similar to or much greater than other § 761.65(d)(2)-approved PCB commercial storage facilities in U.S. EPA Region 9. There are three PCB commercial storage facilities in Region 9 that are not also disposal facilities. The approved maximum PCB storage capacities at these facilities are 44,190 gallons (Veolia, Phoenix) [U.S. EPA 2015]; the equivalent of 7,889 gallons (Lighting Resources, Phoenix) [U.S. EPA 2003]; and 7,920 gallons (Emerald Transformers, formerly Clean Harbors, Los Angeles) [U.S. EPA 2013].



under TSCA for the disposal of PCBs in U.S. EPA Region 9. Like the Kettleman Hills Facility, it also stores and treats PCB wastes.

## **1. APPLICATION REQUIREMENTS FOR PCB COMMERCIAL STORAGE FACILITIES**

40 C.F.R. § 761.65(d)(3) lists the information that must be submitted to U.S. EPA to obtain a commercial PCB waste storage approval under § 761.65(d)(2). This includes information, among other things, on the owners/operators of the storage facility, the technical qualifications and experience of the persons operating the facility, and past state or federal environmental violations. The application must also include an estimate of maximum PCB waste quantity to be handled, a closure plan and cost estimate, and financial assurance for closure. U.S. EPA has reviewed the Renewal Application to check that it contains all the information required by § 761.65(d)(3) and has documented the results in the “Review Checklist for 40 C.F.R. Part 761 Requirements for PCB Commercial Storage Facilities” which can be found in **Appendix D-2**. As documented in this checklist, the Renewal Application contained all required information.

## **2. REQUIRED CONTENTS OF A PCB COMMERCIAL STORAGE FACILITY APPROVAL**

40 C.F.R. § 761.65(d)(4) lists the required contents of a PCB storage approval under § 761.65(d)(2). These include certain regulatory determinations under § 761.65(d)(2), inclusion of the closure plan, conditions imposing maximum PCB storage capacity, and other conditions that U.S. EPA deems necessary to ensure that the operations of the PCB storage facility will not pose an unreasonable risk of injury to health or the environment. We address each of the required elements below and in Appendix A of the Approval. Except as noted below, we did not receive any comments objecting to our proposed regulatory determinations during the public comment period.

### ***a. 40 C.F.R. § 761.65(d)(4)(i) - REGULATORY DETERMINATIONS UNDER § 761.65(d)(2)***

40 C.F.R. § 761.65(d)(2) states that U.S. EPA Regional Administrator shall grant written, final approval to engage in the commercial storage of PCB waste upon a determination that the criteria in § 761.65(d)(2) have been met by the applicant.

U.S. EPA has evaluated the Renewal Application including the supporting documents and other information contained in the Administrative Record and finds that the requirements contained in 40 C.F.R. § 761.65(d)(2) have been met by the applicant Chemical Waste Management, Inc. We discuss these findings and our basis for them below.

### **(1) PERSONNEL REQUIREMENTS**

40 C.F.R. § 761.65(d)(2)(i) requires U.S. EPA to determine that the applicant, its principals, and its key employees responsible for the establishment or operation of the commercial storage facility are qualified to engage in the business of commercial storage of PCB waste.





U.S. EPA has determined that Chemical Waste Management, Inc., and its principals and key employees responsible for the operation of the PCB Flushing/Storage Unit at the Kettleman Hills Facility are qualified to engage in the business of commercial storage of PCB waste. This determination is based on U.S. EPA's evaluation of the experience of the personnel that manage the Facility as given in Renewal Application, Section 2.3. The determination is also based on the Facility's employee training program as described in Operation Plan, Chapter 36 "Training Plan" [CWM 2019d]. The Approval requires that CWM implement and maintain records of this training program. See Approval Conditions IV.E and O.2.

## (2) FACILITY CAPACITY REQUIREMENTS

40 C.F.R. § 761.65(d)(2)(ii) requires U.S. EPA to determine that the facility possesses the capacity to handle the quantity of PCB waste which the owner or operator has estimated will be the maximum quantity of PCB waste that will be handled at any one time.

U.S. EPA has determined that the PCB Flushing/Storage Unit possesses the capacity to handle the quantity of PCB waste which is the amount that Chemical Waste Management, Inc. estimates will be the maximum quantity of PCB waste that will be stored at any one time at the Unit. Approval Condition V.C.1 imposes a maximum storage capacity using these maximum capacities, which are set separately for the enclosed building, PCB storage tank, and outside containment area. These maximum capacities are listed in Table 1 of the Approval and replicated in **Table 3** below. These maximum capacities are based on the secondary containment calculations contained in Attachments 6 and 7 of the Renewal Application that demonstrate the maximum storage capacity quantities allow the Unit to meet the minimum containment requirements of § 761.65(b)(1)(ii).

*Change from Proposed Approval:* In response to comments from DTSC on its RCRA permit renewal application, CWM revised the maximum storage capacities in each area of the PCB F/SU to add room for maneuverability of a forklift or hand truck when storage within the unit is at capacity and to account for drainage from the upper pad in the exterior containment area. See CWM 2019e, p. 7 and CWM 2019c, Response to Specific Comment No. 61.

U.S. EPA has incorporated these reduced maximum capacities into the Approval (see Approval Condition V.C.1.) because they 1) meet the minimum containment requirements for PCB waste storage units in § 761.65(b)(1)(ii) (see CWM 2019f, Attachments 6 and 7), 2) are the same as the maximum storage capacity given for the PCB F/SU in the Facility's incorporated Closure Plan (see Golder 2019b, Appendix E, Table A-3), and 3) by reducing the maximum amount of PCB waste that may be stored at the PCB F/SU, lessen the risk from PCB waste storage operations over the risk considered in the proposed Approval.

## (3) CERTIFICATION OF COMPLIANCE WITH STORAGE FACILITY STANDARDS

40 C.F.R. § 761.65(d)(2)(iii) requires U.S. EPA to determine that the owner or operator of the PCB storage unit has certified compliance with the storage facility standards in § 761.65(b) and (c)(7) using the certification language in § 761.3.



U.S. EPA has determined that Chemical Waste Management, Inc. has met this requirement. This determination is based on the certification by the CWM's district manager with responsibility for operations at the Kettleman Hills Facility that the Facility meets the storage facility standards in 40 C.F.R. § 761.65(b) and (c)(7). See Renewal Application, Section 10. We have also independently assessed and determined that the enclosed building at the PCB Flushing/Storage Unit meets these requirements of § 761.65(b) as documented in "Review Checklist for 40 C.F.R. Part 761 Requirements for PCB Commercial Storage Facilities" found in **Appendix D-2**. The outside containment area at the PCB Flushing/Storage Unit, because it does not have a roof or walls, does not meet the storage facility standard in § 761.65(b)(1)(i). U.S. EPA, however, has authorized PCB waste storage in this area under § 761.65(c)(1) which allows PCB waste storage in areas that do not meet the storage facility standards but limits the types of PCB items that may be stored and also limits storage of these PCB Items to 30 days from their removal from service date. See Approval Condition V.C.4.

*Change from Proposed Approval:* As allowed by 40 C.F.R. § 761.65(c)(1)(iv), CWM may store PCB containers containing liquid PCB at concentrations of  $\geq 50$  ppm in the outside containment area of the PCB F/SU, provided it maintains a current Spill Prevention, Control and Countermeasure (SPCC) Plan pursuant to 40 C.F.R. part 112 that includes the outside containment area. See Approval Condition V.C.4.d. A SPCC Plan is intended to ensure that all appropriate measures in place to prevent spills and to properly respond to a spill. U.S. EPA proposed to incorporate the October 2016 revision of the Facility's SPCC [Golder 2016] into the permit. See proposed Approval, Appendix B-6.

CWM made various minor updates to its SPCC in November 2019. See **Appendix D-4**. None of these updates adversely affect U.S. EPA determination that PCB waste storage in the outside containment area at the PCB F/SU, under the terms and conditions of the Approval, meets applicable requirements of the PCB Regulations and does not pose an unreasonable risk of injury to health or the environment. U.S. EPA has incorporated the November 2019 SPCC Plan [CWM 2019h] into the Approval. See Approval, Appendix B-6.

#### **(4) CLOSURE PLAN DEVELOPMENT**

40 C.F.R. § 761.65(d)(2)(iv) requires U.S. EPA to determine that the owner or operator has developed a written closure plan for the facility that is acceptable under the closure plan standards of paragraph § 761.65(e).

40 C.F.R. § 761.65(e) contains a list of requirements for closure plans including a schedule for closure (that meets the requirements of § 761.65(e)(6)), description of how a storage facility will be closed including post-closure testing, and any activities that will be needed to prevent any post-closure release of PCBs.

The closure plan for the PCB Flushing/Storage Unit is in section 2.7 of the "Closure and Post-Closure Plans, Kettleman Hills Facility" [Golder 2019b] ("Closure Plan"). U.S. EPA reviewed this Closure Plan for compliance with the requirements of § 761.65(e) and documented the results in "Review Checklist for 40 C.F.R. Part 761 Requirements for PCB Commercial Storage Facilities"





**(Appendix D-2).** Based on its review, U.S. EPA has determined that Chemical Waste Management, Inc. has developed a written closure plan for the PCB Flushing/Storage Unit that is acceptable under the closure plan standards of 40 C.F.R. § 761.65(e).

The Approval requires implementation of the Closure Plan on closure. See Approval Condition V.I.5. The Closure Plan is incorporated into the Approval. See Approval, Appendix B-3.

The PCB Flushing/Storage Unit will be “clean” closed with no residual PCB contamination remaining at the site; therefore, no post-closure care plan is needed for the Unit [Golder 2019b, p. 43].

*Change from the Proposed Approval:* CWM made several changes to the closure and post-closure plans and closure and post-closure care cost estimates in July 2019 [Golder 2019b] and submitted the revised documents to U.S. EPA as part of the 2019 Renewal Application [CWM 2019f, p. 33]. A list of the changes to the plans and cost estimates can be found in Appendix D-4. Most of these changes come in response to comments made by DTSC in its review of CWM’s application to renew the KHF’s RCRA permit. See, for example, CWM 2019c, Response to Specific Comment No. 69; Response to ESPO Comment No 1; Response to ESPO Comment No. 3.

U.S. EPA has reviewed these changes and has determined that none affect compliance of the plans and cost estimates with applicable provisions of the PCB Regulations (see Appendix D-2), that they are consistent with other revisions to the TSCA Renewal Application and with our proposed Approval, and that none of these updates adversely affect U.S. EPA’s determination that PCB waste operations, under the terms and conditions of the Approval, do not pose an unreasonable risk of injury to health or the environment. U.S. EPA has incorporated excerpts of the July 2019 “Closure and Post-Closure Plan, Kettleman Hills Facility, Kings County, California.” See Approval, Appendix B-3.

## **(5) DEMONSTRATION OF FINANCIAL RESPONSIBILITY FOR CLOSURE**

40 C.F.R. § 761.65(d)(2)(v) requires U.S. EPA to determine that the owner or operator has included in the application a demonstration of financial responsibility for closure that meets the financial responsibility standards of § 761.65(g). U.S. EPA has determined, , that Chemical Waste Management, Inc. has provided a demonstration of financial responsibility that meets the financial responsibility standards of 40 C.F.R. § 761.65(g). The current financial assurance mechanism is a surety bond guaranteeing payment into a closure/post-closure trust fund that meets applicable TSCA regulatory requirements for such mechanisms. See CWM 2020a and 2020b.

*Changes from the Proposed Approval:* CWM maintains financial assurance that covered the cost of closure and post-closure care for all RCRA units at the Kettleman Hills Facility including the PCB Flushing/Storage Unit and Landfill B-18 as required by 22 C.C.R. § 66264.140 *et seq.* and its State RCRA Permit. This financial assurance mechanism is a surety bond guaranteeing payment into a closure/post-closure trust fund that meets applicable RCRA regulatory requirements. See CWM 2018j. At the time of the proposal, U.S. EPA found that Chemical Waste Management, Inc.’s existing financial assurance mechanism was sufficient to demonstrate the required financial



responsibility for closure of the PCB Flushing/Storage Unit under the Facility's existing approvals. However, U.S. EPA noted that it, and not DTSC, is the agency with authority over the closure requirements that is named in the instruments required under § 761.65(g). Thus, U.S. EPA determined that in order for it to make the required finding under 40 C.F.R. § 761.65(d)(2)(v), CWM would need to submit for the PCB Flushing/Storage Unit one or more of the financial assurance mechanisms listed at 40 C.F.R. § 761.65(g) prior to U.S. EPA's issuance of a final approval. See proposed Condition IV.M.3. CWM submitted the required financial assurance documents in June 2020. See CWM 2020a and 2020b.

#### **(6) OPERATIONS WILL NOT POSE AN UNREASONABLE RISK OF INJURY TO HEALTH OR THE ENVIRONMENT**

40 C.F.R. § 761.65(d)(2)(vi) requires U.S. EPA to determine that operation of the storage facility will not pose an unreasonable risk of injury to health or the environment. As discussed in **section V** of this SB, U.S. EPA has determined that operations of the Kettleman Hills Facility, including the PCB waste storage and processing at the PCB Flushing/Storage Unit, as allowed and limited by the Approval will not pose an unreasonable risk of injury to health or the environment. This determination is based on the design, construction, and operations of the Unit as described in the Renewal Application, Approval conditions, studies performed to evaluate the impact of the Kettleman Hills Facility on surrounding areas, monitoring data, the Facility's compliance record, and findings on endangered species.

We received a number of comments opposing our proposed determination that operations of the Facility will not pose an unreasonable risk of injury to health or the environment. See **section V** for more information on these comments. We fully considered and responded to each comment prior to making the final decision to approve the Renewal Application. See Appendix K, **section D**.

#### **(7) COMPLIANCE HISTORY**

Under 40 C.F.R. § 761.65(d)(2)(vii), the environmental compliance history of the applicant, its principals, and its key employees may be deemed to constitute a sufficient basis for denial of an approval if the history of environmental civil violations or criminal convictions evidences in U.S. EPA's judgement a pattern or practice of noncompliance that demonstrates the applicant's unwillingness or inability to achieve and maintain compliance with the regulations.

U.S. EPA has carefully reviewed Chemical Waste Management, Inc.'s compliance history at the Kettleman Hills Facility. See **section IV** of this SB. This review included information in Table 6 of the Renewal Application [CWM 2019f], CWM's Response to NOD Comment 60 [CWM 2018c], U.S. EPA's inspection records, and DTSC's Envirostor database **[https://www.envirostor.dtsc.ca.gov/public/hwmp\\_profile\\_report.asp?global\\_id=CAT000646117](https://www.envirostor.dtsc.ca.gov/public/hwmp_profile_report.asp?global_id=CAT000646117)**. The Facility's compliance history does not show unresolved violations, an inability to return to compliance after violations are found, or an unwillingness/inability to modify operations at the Facility to prevent repeat noncompliance. The corrective actions that Kettleman Hills Facility



implemented to address past violations include physical and operational improvements to reduce the potential for future violations and to prevent and contain future releases. Based on its review of this compliance history, U.S. EPA has determined that this history does not demonstrate the applicant's unwillingness or inability to achieve and maintain compliance with the regulations.

U.S. EPA received many comments objecting to its proposed determination that the Facility's compliance history did not provide grounds for either revoking the existing TSCA approvals or rejecting the Renewal Application. See **section IV** for more information on these comments. We fully considered and responded to each comment prior to making the final decision to approve the Renewal Application. See Appendix K, **section C**.

#### ***b. CLOSURE PLAN***

40 C.F.R. § 761.65(d)(4)(ii) requires that the closure plan be incorporated into the Approval. U.S. EPA has incorporated the Closure Plan [Golder 2019b] into the Approval. See Approval Conditions IV.A.3 and B.9. and Appendix B-3 .

*Change from Proposed Approval:* CWM made several changes to the closure and post-closure plans and closure and post-closure care cost estimates in July 2019 [Golder 2019b] and submitted the revised documents to U.S. EPA as part of the 2019 Renewal Application [CWM 2019f, p. 33]. A list of the changes to the plans and cost estimates can be found in Appendix D-4. Most of these changes come in response to comments made by DTSC in its review of CWM's application to renew the KHF's RCRA permit. See, for example, CWM 2019c, Response to Specific Comment No. 69; Response to ESPO Comment No 1; Response to ESPO Comment No. 3.

U.S. EPA has reviewed these changes and has determined that none affect compliance of the plans and cost estimates with applicable provisions of the PCB Regulations (see Appendix D-2), that they are consistent with other revisions to the TSCA Renewal Application and with our proposed Approval, and that none of these updates adversely affect U.S. EPA's determination that PCB waste operations, under the terms and conditions of the Approval, do not pose an unreasonable risk of injury to health or the environment. U.S. EPA has incorporated excerpts of the July 2019 "Closure and Post-Closure Plan, Kettleman Hills Facility, Kings County, California." See Approval, Appendix B-3.

#### ***c. MAXIMUM PCB STORAGE CAPACITY***

40 C.F.R. § 761.65(d)(4)(iii) requires that U.S EPA include a condition imposing a maximum PCB storage capacity which a facility cannot exceed during its PCB waste storage operations. This section of Part 761 also requires that maximum storage capacity imposed cannot be greater than the estimated maximum inventory of PCB waste included in the owner's or operator's application for final approval.

Approval Condition V.C.1. limits the maximum storage capacity at the PCB Flushing/Storage Unit to the values listed in Table 1 of the Approval. These maximum capacities are listed in **Table 3** below. Total maximum capacity for all parts of the Unit is 36,420 gallons, however, maximum capacities are set separately for the enclosed building, PCB storage tank, and outside containment



area. These maximum storage capacities are the same as in the Facility's incorporated Closure Plan [Golder 2019b, Appendix E, Table A-3].

**TABLE 3 – MAXIMUM STORAGE CAPACITIES AT THE PCB FLUSHING/STORAGE UNIT**

AREA	MAXIMUM UNIT STORAGE CAPACITY (GALLONS)	
	INDIVIDUAL COMPONENT	TOTAL
PCB F/SU – Enclosed Building – on floor or racks	13,200 gallons (equivalent of 240 55-gallon drums <sup>1</sup> )	19,100 gallons
PCB F/SU – Enclosed Building – PCB Storage Tank	5,900 gallons	
PCB F/SU – Outside Containment Area	17,320 gallons (equivalent of 224 55-gallon drums <sup>1</sup> and one 5,000-gallon container)	17,320 gallons <sup>2</sup>

<sup>1</sup> When doubled stacked on pallets.

<sup>2</sup> Storage limited to the PCB waste listed in Condition V.C.4. and to 30 days from removal from service date.

The Approval also contains conditions setting minimum aisle spacing and maximum container stacking height to facilitate safe operations at the PCB F/SU. See Approval Conditions V.D.2. and 3. We note that approval by U.S. EPA of a maximum PCB storage capacity does not relieve Chemical Waste Management, Inc. of any requirements related to safe container management including the required aisle spacing and maximum container stacking height.

*Change from the Proposed Approval:* The proposed Approval included higher maximum storage capacities for the Enclosed Building (e.g., 16,500 gallons, the equivalent of 300 55-gallon drums), the PCB Storage Tank (7,500 gallons) and the Outside Containment Area (20,015 gallons, the equivalent of 273 55-gallon drums and one 5,000-gallon container). See proposed Approval Condition V.C.1.

In response to comments from DTSC on its application to renew its RCRA permit, CWM reduced the maximum storage capacities in each area of the PCB F/SU to add room for maneuverability of a forklift or hand truck when storage within the unit is at capacity and to account for drainage from the upper pad in the exterior containment area. See CWM 2019e, p. 7 and CWM 2019c, Response to Specific Comment No. 61.

U.S. EPA has incorporated these reduced maximum capacities into the Approval (see Approval Condition V.C.1.) because they 1) meet the minimum containment requirements for PCB waste storage units in § 761.65(b)(1)(ii) (see CWM 2019f, Attachments 6 and 7), 2) are the same as the maximum storage capacity given for the PCB F/SU in the Facility's incorporated Closure Plan (see Golder 2019b, Appendix E, Table A-3), and 3) by reducing the maximum amount of PCB



waste that may be stored at the PCB F/SU, lessen the risk from PCB waste storage operations over the risk considered in the proposed Approval.

***d. OMNIBUS PROVISIONS***

40 C.F.R. § 761.65(d)(4)(iv) allows U.S. EPA to include other conditions in a PCB commercial storage facility approval as needed to ensure that the operations of the facility will not pose an unreasonable risk of injury to health or the environment. These additional conditions are known as “omnibus” provisions.

U.S. EPA has included a number of omnibus conditions in the Approval. These omnibus conditions are discussed further in **section III.G.** of this SB. **Appendix E** lists each omnibus condition and provides the reason for including each in the Approval.

**E. RECORDKEEPING AND REPORTING REQUIREMENTS**

40 C.F.R. § 761.180 includes the primary recordkeeping and reporting requirements for disposers and commercial storers of PCB waste. These requirements include annual documents, an annual document log, and an annual report. CWM addressed these requirements in its Renewal Application. See “Review Checklist for 40 C.F.R. Part 761 Requirements for Recordkeeping and Reporting” (**Appendix D-3**). All these requirements are included in the Approval. See Subsection IV.O. We have also included in the Approval the other applicable 40 C.F.R. Part 761 recordkeeping requirements such as those in § 761.65(c)(5) for records of inspections, maintenance, cleanup and disposal at storage facilities and § 761.75(b)(8)(iv)) for three dimensional burial coordinates in chemical waste landfills. See Approval Condition VI.D.5. requiring maintenance of records of waste locations within Landfill B-18 using a grid coordinate system; Condition IV.O.4 requiring the TSCA Operation Plan recordkeeping procedures to be followed, and IV.O.6 citing to PCB waste burial coordinates. The Approval also includes some omnibus recordkeeping and reporting requirements such as tracking PCB waste in the PCB F/SU to document that the maximum storage capacity is not exceeded and early reporting of any detection of PCBs in groundwater or leachate. See Approval Conditions IV.O.3. and VIII.B.6.

The Approval also requires CWM to submit a monthly report to U.S. EPA of any PCB waste received at the Kettleman Hills Facility during the previous month which resulted from spills, leaks, or other uncontrolled discharges of PCBs. See Approval Condition IV.O.11. This monthly report must also include a description of any occurrences that are not normal to the operation of the Facility as allowed/required by the Approval. Examples of occurrences that must be reported include accidents, spills, leaks, uncontrolled discharges, earthquake damage, excessive rain episodes, fires, explosions, etc. The Approval covers operations at the PCB F/SU and Landfills B-14, B-16, B-18, and B-19 (Phases IB, II, and III) as well as PCB Waste pre-acceptance and acceptance procedures, groundwater and air monitoring, stormwater control, road and fence maintenance, security, contingency plans, recordkeeping, etc. Any “not normal” occurrence that affects any of these operations or others covered in the Approval must be included in the monthly report. Events that are limited to the Class II/III Subtitle D Landfills or RCRA-only permitted units





do not need to be included in the monthly report unless they involved PCB items or PCB waste or otherwise affect PCB waste operations at the Facility.

A table of the reporting, notification, and submittal requirements included in the Approval can be found in **Appendix F** of this Statement of Basis.

## **F. OTHER APPROVAL CONDITIONS**

The Approval has a number of other conditions that are necessary to comply with 40 C.F.R. Part 761 requirements or to ensure that PCB waste disposal, storage, and processing at the Kettleman Hills Facility will not present an unreasonable risk to health or the environment. We briefly discuss some of these requirements below.

### **1. GROUNDWATER MONITORING REQUIREMENTS**

The Kettleman Hills Facility has a current network of 41 groundwater wells monitoring both open and closed landfills and evaporative ponds. The TSCA (PCB) groundwater monitoring network is a subset of this larger groundwater monitoring system and has 23 wells monitoring the four TSCA landfills units. See “TSCA Groundwater Monitoring Addendum to Site-Specific Monitoring Plan” (April 17, 2018). Under its current DTSC permit, KHF is required to tests all wells quarterly. Under the current RWQCB order, wells are required to be tested semiannually. Quarterly/semiannual testing is limited to the Detection Monitoring Parameters (MPars) listed in MRP R5-2014-0003 Table 2 with testing for a more extensive list of constituents, including PCBs, every five years [RWQCB 2014b]. Because PCBs have been rarely been detected in groundwater at the Kettleman Hills Facility, the Approval requires that groundwater wells for the operating landfill, Landfill B-18, be tested annually for PCBs and wells in the closed landfills be tested every 5 years for PCBs.<sup>8</sup> See Approval Section VIII.B.

*Change from the proposal:* CWM requested that proposed Approval Condition VIII.B.2. be modified to allow groundwater sampling during the first half of the year when this sampling

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<sup>8</sup> PCBs have been detected twice in groundwater at the Kettleman Hills Facility [CWM 1999/CWM 2018h]:

A sample collected from corrective action monitoring (“CAM”) well A02 on May 21, 1985 detected Aroclor 1248 at 1.5 ug/l (0.0015 ppm) and Aroclor 1254 at 1.5 ug/l (0.0015 ppm). CAM well A02 monitors releases from closed ponds P-12 and P-12A. No subsequent sample detected any PCBs.

A sample collected from CAM well A05 on March 20, 1995 detected Aroclor 1232 at 2.0 ug/l (0.002 ppm). No subsequent quarterly sample has detected any PCBs. CAM well A02 monitors releases from pond P-9.

No PCBs have been detected in groundwater wells monitoring the four landfills approved for PCB waste disposal at KHF.

In 1995 and 2004, PCBs were detected in samples collected from sounding well B14MW2 [CWM 2018h]. Sounding well B14MW2 was one of four shallow (42 – 102 feet below ground level) sounding wells installed in 1981 on the perimeter of Landfill B-14 to monitor for and collect fluids that could potentially migrate out of the landfill [Geomatrix 2006]. The Landfill B-14 sounding wells were checked regularly for fluids. In 1995, surface water from heavy rains entered the B14MW2. Testing of the water in the well detected PCBs at a concentration of 0.002 ppm in February 1995 and 0.0007 ppm in March 1995 [CWM 2018h]. In 2004, all residual water was removed from the well and tested. PCBs were detected at a concentration of 0.0027 ppm [CWM 2018h]. All four Landfill B-14 sounding wells were decommissioned in 2009 with U.S. EPA’s approval [USEPA 2008a]. Potential releases to groundwater from Landfill B-14 are currently monitored by well K-50 [AMEC 2014].



schedule is required by the currently approved Site-Specific Groundwater Monitoring Plan. As proposed this Condition required annual groundwater sampling occurring in the second half of the year. Under KHF's approved *Site-Specific Groundwater Monitoring Plan* (April 2014), groundwater testing for constituents of concern ("COC"), including PCBs, is required every 4.5 years. The 4.5-year schedule is set to alternate sampling between spring (first half of the year) and fall (second half of the year). We have revised proposed Approval Condition VIII.B.2. to allow groundwater sampling for PCBs to occur during the first half of the year concurrently with the COC testing. This approach will reduce sampling costs without reducing sampling frequency for PCBs.

## 2. AIR QUALITY MONITORING REQUIREMENTS

Under our omnibus authority in 40 C.F.R. § 761.65(d)(4)(iv) and § 761.75(c)(3)(ii), U.S. EPA is requiring Chemical Waste Management, Inc. to continue to operate its current air monitoring program as described in the *Site-Specific Ambient Air Monitoring Plan* (January, 2016) ("AAMP") [Wenck 2016a] as approved by DTSC on May 11, 2016 [DTSC 2016] and Operation Plan, Chapter 26 Environmental Monitoring Programs, Section "Summary of Ambient Air Monitoring Program" [CWM 2019d]. See Approval Condition VIII.A. Air emissions are one of the main pathways that PCBs may be transported offsite from the Kettleman Hills Facility and potentially impact surrounding communities. Monitoring this pathway, therefore, is necessary to ensure that operations at the Facility do not pose an unreasonable risk of injury to health or the environment from PCBs.

The current Kettleman Hills Facility's air monitoring program measures PCBs, volatile organic compounds (VOCs), carbonyls, pesticides, metals, and particulate matter less than 10 microns (PM<sub>10</sub>) in order to evaluate the risk to human health from the Facility's emissions. The program includes four monitoring stations near the Facility's property line, one upwind, two southeast of Landfill B-18, and one between the Facility and Kettleman City. Ambient air samples are collected for a 24-hour period every 12-days at all four stations for VOCs, carbonyls, pesticides, PCBs, and PM<sub>10</sub> metals. In addition, a month-long PCB/pesticide sample is collected once per quarter at all four monitoring locations. The Approval also requires CWM to submit air monitoring reports quarterly. See Approval Condition VIII.A.2.

*Change from the proposal:* The proposed Approval included a requirement (proposed Approval Condition VIII.A.2.) that CWM revise the AAMP to add the fourth monitoring station, Downwind Monitoring Station 3, as an existing ambient air monitoring site to be operated in the same manner and on the same schedule as the other monitoring stations and submit the revised plan as a Class 1 modification to the U.S. EPA Project Manager within 180 days of the effective date of the Approval. In its comments on the proposed Approval, CWM requested deletion of this proposed condition because the current DTSC-approved version of the Site-Specific Ambient Air Monitoring Plan already includes this station. U.S. EPA agreed with this revision and has deleted the requirement. See Appendix K, Response to Comment **B-23**.





### 3. LEACHATE COLLECTION, REMOVAL, AND MONITORING REQUIREMENTS

Leachate is any liquid that has percolated through or drained from a hazardous waste landfill. Leachate is collected, removed, and monitored to protect a landfill's liners, provide early detection of possible leaks from a landfill, and to protect groundwater under the landfill.

The Approval requires Chemical Waste Management, Inc. to provide, maintain, and operate leachate collection and removal systems at Landfill B-18 and the closed Landfills B-14, B-16, and B-19 (Approval Conditions VI.E. and VII.B.3.b. and c.). These requirements include the weekly monitoring of the liquid level in each leachate collection sump at Landfill B-18 (Approval Condition VI.E.3.d.) and monthly monitoring of these levels at the closed Landfills B-14, B-16, and B-19 (Approval Condition VII.B.3.b.). It also requires the removal of leachate from each sump as needed to prevent liquid levels from exceeding a specified head or trigger level (Approval Conditions VI.E.3.b. and c. and VII.B.3.b.)

The Approval also requires annually testing leachate for PCBs from each leachate collection sump (Approval Conditions VI.E.5.a. and VII.B.3.b.), immediate reporting to U.S. EPA if any PCBs are detected (Approval Conditions VI.E.5.b. and VII.B.3.b.), and submittal of an annual report on the results of the leachate testing (Approval Conditions VI.E.5.b. and VII.B.3.b.).

### 4. SURFACE WATER MANAGEMENT AND MONITORING REQUIREMENTS

The Approval requires Chemical Waste Management, Inc. to provide, maintain, and operate stormwater diversion structures capable of diverting all surface water away from Landfill B-18 from a 24-hour, 25-year storm event of 2 inches in 24 hours (Approval Condition VI.F.1.). Currently stormwater run-on to the landfill is caught prior to contact with the waste and directed by surface drainage channels to stormwater discharge basins on the Facility (TSCA Operation Plan, "Surface Water Handling Procedures" [CWM 2019g]). All stormwater that enters or accumulates within the Landfill B-18 is collected. Under the Approval, this collected stormwater is to be stored, tested, and disposed of as leachate (Approval Condition VI.F.3.). A sample from the first collection of stormwater that contacts waste in Landfill B-18 after each storm event must be analyzed for PCBs (Approval Condition VI.F.4.). If PCBs are detected in a sample taken from the accumulated precipitation, CWM must notify U.S. EPA within 24 hours of reviewing the analytical report (Approval Condition VI.F.4.).

KHF maintains and implements a Stormwater Pollution Prevention Plan [Golder 2019a]. U.S. EPA is requiring compliance with this plan in its Approval and to incorporate this plan into the Approval. See Approval Condition VI.F.1.

*Change from Proposed Approval:* CWM made very minor updates to its Stormwater Pollution Prevention Plan in June 2019 and submitted the updated Plan in November 2019 [CWM 2019f and Golder 2019a]. See Statement of Basis, Appendix D-4 for a list of these updates. None of these updates adversely affect U.S. EPA's determination that PCB waste operations at the Kettleman Hills Facility, under the terms and conditions of the Approval, do not pose an unreasonable risk of



injury to health or the environment. U.S. EPA has incorporated the June 2019 Stormwater Pollution Prevention Plan into the Approval. See Approval, Appendix B-12.

### 5. POST-CLOSURE CARE OF LANDFILLS B-14, B-16, AND B-19

We have previously approved disposal of nonliquid PCBs in Landfills B-14, B-16, and B-19 and each of these landfills has been closed and a final cover constructed [Golder 2019b]. Chemical Waste Management, Inc. currently maintains and implements post-closure care for these landfills [Golder 2019b]. Because PCB waste will remain in these closed landfills indefinitely, it is necessary to monitor conditions and maintain post-closure care into the future.

Under the omnibus authority in 40 C.F.R. § 761.75(c)(3)(ii), U.S. EPA is requiring Chemical Waste Management, Inc. to maintain and implement post-closure care plans for Landfills B-14, B-16, and B-19 for 30 years from the effective date of a final approval. See Approval Conditions VII.B.2. and B.3. Required post-closure care includes groundwater monitoring, leachate monitoring, and inspection and maintenance of the final cover. See Approval Condition VII.B.3. The Approval also requires CWM to maintain a post-closure care cost estimate for each landfill and sufficient financial assurance to cover these costs. See Approval Subsections IV.L. and M. Finally, the Approval, requires CWM to apply for a modification to update the post-closure care plan for an appropriate period prior to the end of the initial post-closure period. See Approval Condition VII.B.5.

These post-closure requirements are consistent with the provisions placed on Landfill B-18 discussed above at **section III.C.4**. We discuss these omnibus requirements in **section III.G**, and we have listed and provided a justification for each omnibus requirement in **Appendix E**.

*Change from Proposed Approval:* CWM made several changes to the closure and post-closure plans and closure and post-closure care cost estimates in July 2019 [Golder 2019b] and submitted the revised documents to U.S. EPA as part of the 2019 Renewal Application [CWM 2019f, p. 33]. A list of the changes to the plans and cost estimates can be found in Appendix D-4. Most of these changes come in response to comments made by DTSC in its review of CWM's application to renew the KHF's RCRA permit. See, for example, CWM 2019c, Response to Specific Comment No. 69; Response to ESPO Comment No 1; Response to ESPO Comment No. 3.

U.S. EPA has reviewed these changes and has determined that none affect compliance of the plans and cost estimates with applicable provisions of the PCB Regulations (see Appendix D-2), that they are consistent with other revisions to the TSCA Renewal Application and with our proposed Approval, and that none of these updates adversely affect U.S. EPA's determination that PCB waste operations, under the terms and conditions of the Approval, do not pose an unreasonable risk of injury to health or the environment. U.S. EPA has incorporated excerpts of the July 2019 "Closure and Post-Closure Plan, Kettleman Hills Facility, Kings County, California." See Approval, Appendix B-3.



## 6. FACILITY INSPECTION AND MAINTENANCE REQUIREMENTS

The Approval includes requirements that Chemical Waste Management, Inc. perform and document regular comprehensive inspections of the Facility including the PCB Flushing/Storage Unit and operating Landfill B-18 and its support systems. See Approval Section IV.I. and Approval Conditions IV.I.4.; V.H.1. and VI.G.1. These inspections cover all aspects of the Facility operations including site security, environmental monitoring systems, surface water management, safety and emergency equipment, leachate systems, and all waste management units on site. These inspections are to be documented. See Approval Conditions IV.I.4.; V.H.3., VI.G.3. and VII.B.1. CWM currently performs and documents inspections of the Kettleman Hills Facility under its State RCRA permit and TSCA approvals.

The Approval also requires CWM to evaluate and address all deficiencies identified during inspection and maintain records of any actions taken. See Approval Conditions IV.I.3. and 4.; V.H.2. and 3.; and VI.G.2 and 3.

*Quarterly PCB Sampling Plan.* Under the Approval, CWM must conduct random wipe sampling of the PCB Flushing/Storage Unit every quarter. See Approval Section V.G. Once per year, it must use a third party to conduct the sampling. See Approval Condition V.G.1. If PCB contamination above certain levels is discovered, CWM must notify U.S. EPA and initiate decontamination processes. See Approval Condition V.G.3. CWM is already conducting this wipe sampling [CWM 2018c, Answer 10 and NOD Comment 10 Attachments].

## 7. CONTINGENCY PLAN

The Approval requires Chemical Waste Management, Inc. to conduct any emergency response and spill prevention and cleanup activities at the Kettleman Hills Facility in accordance with its Contingency Plan. See Approval Condition IV.G.2. This Contingency Plan is incorporated into the Approval (see Appendix B-1-11 of the Approval). The Contingency Plan includes detailed information on emergency response procedures including remediation actions, emergency equipment that must be kept on site, and notification and reporting requirements. CWM is required to annually review and update information on PCB operations and stored materials at the Facility and the Contingency Plan as provided to local first-response agencies (for example, the fire department, county sheriff). See Approval Condition IV.G.8. It is also required to notify U.S. EPA once it completes the annual review and update. See Approval Condition IV.G.8. CWM may make this notification as part of the monthly report required by Approval Conditions IV.O.11.

The Approval also requires CWM to immediately report any incident involving PCBs that requires implementation the Contingency Plan and provide a more detailed report within 15 days of the incident. See Approval Conditions IV.G.3. and 4. It also requires reporting of any unauthorized entry, tampering, destruction, or loss which caused PCBs to be discharged. See Approval Condition IV.G.14.



There are also a number of other emergency response, spill prevention and control, and notice and reporting requirements in the Approval. For examples, see Approval Section IV.G. and Approval Condition V.B.3.

## **8. APPROVAL MODIFICATION PROCEDURES**

U.S. EPA has included detailed procedures for modifying the approval (Approval Section IX). The PCB regulations contain few requirements for modifying approvals. In contrast, U.S. EPA's RCRA regulations contain detailed procedures for modifying RCRA permits. See 40 C.F.R. § 270.41 and § 270.42. We have used these RCRA requirements as a model for the approval modification procedures in the Approval. We have previously included similar procedures in the approval for PCB landfill and storage operations at U.S. Ecology's Beatty, Nevada facility. See EPA 2012c.

The Approval specifies the administrative procedures to modify, transfer ownership or operational control, revoke, suspend, deny, continue or renew an approval. These procedures are necessary to ensure that the Facility continues to operate under an approval that reflects current ownership and operation control as well as current operating procedures and contains the terms and conditions necessary to ensure that the Facility is operated in a manner that does not pose an unreasonable risk of injury to health or the environment.

The Approval provides for public notice and comment for certain types of modifications. Public participation in the modification process helps to ensure that all issues related to operations of the Facility that affect the surround community are known and approval conditions to address those issues and prevent an unreasonable risk of injury to health or the environment are included.

### **G. USE OF THE OMNIBUS APPROVAL PROVISIONS AT 40 C.F.R. § 761.65(d)(4)(iv) AND 40 C.F.R. § 761.75(c)(3)(ii)**

The PCB regulations at 40 C.F.R. § 761.65(d)(4)(iv) and 40 C.F.R. § 761.75(c)(3)(ii) allow U.S. EPA to include other requirements in an approval that the Agency finds necessary to ensure that PCB storage and disposal operations at a facility “will not pose an unreasonable risk of injury to health or the environment.”

The Approval for the Kettleman Hills Facility includes use of these provisions to include requirements that are not specifically delineated in the PCB regulations but are necessary to ensure that operations at the Facility do not present unreasonable risk. For example, the PCB regulations for chemical waste landfills (40 C.F.R. § 761.75) do not include the requirement for either a closure or post-closure care plan. Using the omnibus regulation 40 C.F.R. § 761.75(c)(3)(ii), U.S. EPA is requiring Landfill B-18 be included in the Facility Closure Plan [Golder 2019b] and that all four chemical waste landfills at the Facility (Landfills B-14, B-16, B-18, and B-19) be included in the Facility Post-Closure Care Plan.

U.S. EPA's justification for using the omnibus provisions of 40 C.F.R. § 761.65(d)(4)(iv) and 40 C.F.R. § 761.75(c)(3)(ii) in the Approval are provided in **Appendix E**.



#### IV. COMPLIANCE HISTORY

U.S. EPA reviews a facility's compliance history as part of its decision-making process as to whether to grant an approval under TSCA for several reasons. First, under 40 C.F.R. § 761.65(d)(2)(ii), the environmental compliance history of the applicant, its principals, and its key employees may provide a sufficient basis for denial of an approval if the history of environmental civil violations or criminal convictions establishes, in U.S. EPA's judgement, the applicant's unwillingness or inability to comply with the regulations. Second, remedies to noncompliance, such as changes to operational procedures, may need to be incorporated into an approval. Finally, information developed through compliance monitoring, and the inspection reports they generate, increases familiarity with a facility allowing for a better and more comprehensive permit.

Kettleman Hills Facility is inspected by U.S. EPA and a number of state and local agencies including DTSC, the Central Valley Regional Water Quality Control Board, San Joaquin Valley Air Pollution Control District (SJVAPCD), and Kings County. For this evaluation, we focused on our and DTSC's inspections and enforcement actions because they are most relevant to our Approval. We did, however, review five years of inspection reports by other agencies that inspect the Kettleman Hills Facility. Copies of these reports can be found in CWM's response to U.S. EPA's Notice of Deficiency [CWM 2018b]. We also reviewed the environmental violations at the Facility that have resulted in the assessment of penalties during the past ten years. In total, the Facility had civil penalties assessed for eleven violations during this period: two from DTSC, three from U.S. EPA, and six from the SJVAPCD. See Renewal Application, Table 6. Most of the air violations related to operations of the Facility's flare. See Renewal Application, Table 6. This flare controls gases from the municipal solid waste landfills and is not part of the Facility's hazardous or PCB waste operations. We discuss the DTSC and U.S. EPA enforcement actions below.

**Table 4** is a list of inspections by U.S. EPA and DTSC and their results over the past 20 years. The majority of inspections do not uncover any violations of regulations or permit conditions or other issues of concern. U.S. EPA found a number of violations of the PCB regulations during inspections at the Kettleman Hills Facility. Chemical Waste Management also self-disclosed some violations. We describe several of these violations below as well as RCRA violations that DTSC and U.S. EPA found. Each of these violations have been remedied and, in some cases, approval terms have been added to help prevent reoccurrences.

U.S. EPA received many comments on the Kettleman Hills Facility's compliance history during the public comment period on the proposed Approval. The comments state that U.S. EPA should deny the permit because the Facility history of noncompliance shows that CWM cannot comply with its permit or safely manage PCB wastes. U.S. EPA acknowledges that CWM has been cited for violations multiple times for a variety of issues. Each of these violations has been remedied and, in some cases, operational or physical changes have been made at the Facility and conditions have been added to the permit to prevent reoccurrences. After careful review of this history and consideration of public comments, it is U.S. EPA's judgment that the history of violations at the Facility does not evidence a pattern or practice of noncompliance that demonstrates CWM's





unwillingness or inability to achieve and maintain compliance with the regulations. See responses to comments **C-1 to C-13** in the Appendix K.

U.S. EPA does not find that the compliance history of the Kettleman Hills Facility suggests a pattern or practice of noncompliance that establishes in U.S. EPA's judgement CWM's unwillingness or inability to comply with the regulations.

#### A. TSCA VIOLATIONS

*In February 2004*, Chemical Waste Management disclosed that it had failed to perform required monthly monitoring of lysimeters at one of four PCB disposal units from June 1996 to November 2003 [CWM 2004]. A consent agreement between U.S. EPA and CWM for these violations included a \$10,000 penalty and \$37,500 to purchase emergency response equipment for the Kings County Environmental Health Services [U.S. EPA 2005]. The Approval includes weekly inspection of the leachate removal systems in Landfill B-18 and monthly inspections in the closed Landfills B-14, B-16, and B-19. See Approval Conditions VI.E.3.d. and e. and VII.B.3.b.

*In August 2005*, U.S. EPA's National Enforcement Investigations Center ("NEIC") conducted a TSCA investigation of the Kettleman Hills Facility (Phase 1 of its multi-media investigation) and found several areas of noncompliance including improperly calibrating laboratory instruments analyzing PCBs [U.S. EPA 2006]. We issued a Notice of Noncompliance ("NON") which required documentation of appropriate laboratory procedures [U.S. EPA 2007c; U.S. EPA 2007d]. CWM provided the required information [CWM 2008a]. Accordingly, we found that CWM had remedied the issues of noncompliance and did not assess a penalty [U.S. EPA 2010a].

*In February and June 2010*, US EPA inspectors documented violations of the Approval and TSCA PCB regulations, including [U.S. EPA 2010b; EPA 2010c]:

- Failure to indicate removal from service date on PCB containers. PCB regulations require disposal of PCB waste within one year of its removal from service and the labeling of PCB Items including containers with this date.
- Failure to properly complete manifests by not including removal from service dates or weights on some manifests;
- Continued use of a PCB-contaminated building. PCB regulations prohibit the continued use of items and structures that are contaminated with PCBs unless they are first appropriately decontaminated.
- Improper disposal of PCBs. High-levels of PCBs were found in the building and in the soil around the PCB Flushing/Storage Unit that were the result of leaks and spills, both of which are considered disposal.

To settle these violations, CWM was required to clean-up the contamination around the PCB F/SU and to pay a penalty of over \$300,000 [U.S. EPA 2010d, U.S. EPA 2010e, AMEC 2010]. DTSC also took enforcement action against CWM for PCB releases around the PCB F/SU and required the Facility to take corrective action [DTSC 2011]. The final corrective action remedy included



construction of the outside containment area at the PCB F/SU with a sealed concrete floor and curb to prevent releases to soil around the Unit [ADE 2011].

*In May 2012*, CWM self-reported that it failed to test leachate from Landfill B-18 prior to its disposal as required by conditions in its 1992 Approval [CWM 2012a]. Subsequent testing of the remaining leachate, however, did not detect the presence of PCBs. CWM paid a penalty of \$9,750 [U.S. EPA 2012a].

U.S. EPA most recently inspected KHF in 2017 and found no violations [U.S. EPA 2017b].

## **B. RCRA VIOLATIONS**

*In December 2005*, NEIC conducted a follow-up RCRA/TSCA investigation (Phase 2 of its multi-media investigation). The focus of this investigation was on the CWM's testing and sampling methodologies and protocols. In its investigation report, NEIC documented problems with CWM's hazardous waste sampling, laboratory and testing protocols indicating CWM may have improperly disposed hazardous wastes that do not meet RCRA treatment standards [U.S. EPA 2007a].

*In February 2010*, U.S. EPA and DTSC jointly conducted an inspection of the Kettleman Hills Facility. As a result of the inspection, we found the following alleged violations [U.S. EPA 2011b]:

- Failure to determine whether waste meets the hazardous waste Land Disposal Treatment Standards prior to land disposal. Specifically, the Facility generated leachate from its hazardous waste landfill and surface impoundments and did not thoroughly evaluate whether the waste met treatment standards before land disposal.
- Impermissible land disposal of prohibited hazardous waste. The Facility reported instances where it excavated hazardous waste that was land disposed without proper treatment. In addition, U.S. EPA review of laboratory analysis found instances where the Facility disposed of hazardous waste that did not fully meet treatment standards.
- Failure to comply with the Hazardous Waste Permit – Noncompliance with EPA Method Lab Methods (Test Method 6010B). Both the Facility's RCRA permit and state and federal RCRA regulations require that the Facility comply with a particular laboratory method for analysis of hazardous waste. During review of laboratory records, U.S. EPA found that the Facility did not follow specific laboratory quality control requirements.
- Failure to comply with container requirements for several universal waste fluorescent lamps stored in the drum storage unit.

*In August 2011*, U.S. EPA and CWM reached a \$1 million settlement for these violations [U.S. EPA 2011b]. The settlement required CWM to pay \$400,000 penalty and spend an estimated \$600,000 to make physical and operational improvements at the Kettleman Hills Facility. The compliance activities include:





- Continued use of an outside laboratory for post-treatment metals analysis for a minimum of two years until an independent audit demonstrates that the Facility can produce reliable results;
- Replacing lab equipment;
- Installing new laboratory software;
- Annual characterization of landfill leachate;
- Covering and eliminating stormwater from entering the leachate tanks;
- Modifying cyanide treatment procedures; and
- Sampling liquids and sludge from onsite surface impoundment P-16.

*In March 2013*, DTSC penalized CWM over \$290,000 for failure to report 72 hazardous waste spills at the Kettleman Hills Facility over a four-year period from June 2008 to 2012 [DTSC 2013]. The penalty also addressed violations identified during the DTSC's April 2012 inspection. DTSC reviewed these spills, including the size, location, offsite consequences, cleanup response, and causes of these spills. Of the 72 spills, the largest spill was estimated at five to eight gallons, and 13 spills were less than a pint. The largest number of spills involved non-RCRA hazardous waste between a quart and a gallon. Most of these spills (60 out of 72) occurred at the sampling platforms and untarpping racks, where the Facility samples incoming loads for analysis [DTSC 2012].

DTSC required CWM to construct a containment system at the sampling platforms and untarpping racks to isolate any spills of hazardous waste from contact with the ground [DTSC 2003]. Construction of the containment system was completed in 2016 [Golder 2017].



**TABLE 4 – KHF RCRA/TSCA INSPECTIONS FROM 1992 TO PRESENT**

<b>DATE</b>	<b>TYPE OF INSPECTION</b>	<b>AGENCY</b>	<b>FINDINGS</b>
<b>05/07/1992</b>	Financial Record Review	DTSC	<b>No violations.</b>
<b>05/11-12/1992</b>	Compliance Evaluation Inspection	DTSC	<b>RCRA violations – \$65,000 penalty (penalty also included violations found during 1990 and 1991 inspections). Return to compliance 06/25/1992.</b>
<b>05/14/1992</b>	Compliance Evaluation Inspection	U.S. EPA	<b>No violations.</b>
<b>08/15/1992</b>	Operations and Maintenance Inspection	DTSC	<b>No violations.</b>
<b>09/18/1992</b>	Follow-up Inspection (to 05/12/1992 inspection)	DTSC	<b>RCRA violations – \$65,000 penalty. Return to compliance 08/08/1993.</b>
<b>11/03/1992</b>	Compliance Evaluation Inspection	DTSC	<b>RCRA violations – One 55-gallon container and 2 bags of PCB waste not labeled. Two containers of incompatible waste stored next to each other. Penalty of \$1,100. Return to compliance 01/21/1993.</b>
<b>11/12/1992</b>	Financial Record Review	DTSC	<b>No violations.</b>
<b>03/27/1993</b>	Operations and Maintenance Inspection	DTSC	<b>No violations.</b>
<b>04/23/1993</b>	Compliance Evaluation Inspection	U.S. EPA	<b>RCRA violations related to land disposal restrictions and container management. Return to compliance 12/14/1993</b>
<b>11/01/1993</b>	Compliance Evaluation Inspection	DTSC	<b>No violations.</b>
<b>12/08/1993</b>	TCA PCB Inspection	U.S. EPA	<b>No violations.</b>
<b>04/05/1994</b>	Compliance Evaluation Inspection	U.S. EPA	<b>RCRA violations related to land disposal restrictions and container management. Return to compliance 10/05/1994.</b>



**TABLE 4 (CONTINUED) – KHF RCRA/TSCA INSPECTIONS FROM 1992 TO PRESENT**

<b>DATE</b>	<b>TYPE OF INSPECTION</b>	<b>AGENCY</b>	<b>FINDINGS</b>
11/07/1994	Compliance Evaluation Inspection	DTSC	No violations.
05/03/1995	Compliance Evaluation Inspection	U.S. EPA	RCRA violations. Return to compliance 10/13/1995.
05/15/1995	Operations and Maintenance Inspection	DTSC	No violations.
08/31/1995	TSCA PCB Inspection	DTSC (as grantee to U.S. EPA)	No violations.
11/07/1995	Compliance Evaluation Inspection	DTSC	RCRA violations: Return to compliance 11/17/1995.
04/15/1996	Operations and Maintenance Inspection	DTSC	RCRA violations related to groundwater monitoring. Return to compliance 07/19/1996.
10/18/1996	Financial Record Review	DTSC	No violations.
11/19/1996	Compliance Evaluation Inspection	DTSC	No violations.
02/12/1997	Compliance Evaluation Inspection	DTSC	No violations.
03/31/1997	Compliance Evaluation Inspection	DTSC	No violations.
04/01/1997	Compliance Evaluation Inspection	DTSC	No violations.
04/08/1997	TSCA PCB Inspection	DTSC (as grantee to U.S. EPA)	No violations.
05/12/1997	Compliance Evaluation Inspection	DTSC	No violations.
06/23/1997	Compliance Evaluation Inspection	DTSC	No violations.
10/03/1997	Compliance Evaluation Inspection	DTSC	No violations.



**TABLE 4 (CONTINUED) – KHF RCRA/TSCA INSPECTIONS FROM 1992 TO PRESENT**

<b>DATE</b>	<b>TYPE OF INSPECTION</b>	<b>AGENCY</b>	<b>FINDINGS</b>
10/22/1997	Compliance Evaluation Inspection	DTSC	No violations.
11/19/1997	Compliance Evaluation Inspection	DTSC	No violations.
12/03/1997	Compliance Evaluation Inspection	DTSC	No violations.
02/23/1998	Compliance Evaluation Inspection	DTSC	No violations.
04/13/1998	Compliance Evaluation Inspection	DTSC	No violations.
05/12/1998	Compliance Evaluation Inspection	DTSC	No violations.
06/18/1998	Compliance Evaluation Inspection	DTSC	No violations.
07/21/1998	Compliance Evaluation Inspection	DTSC	No violations.
08/27/1998	Compliance Evaluation Inspection	DTSC	No violations.
10/06/1998	Compliance Evaluation Inspection	DTSC	RCRA violation. Emergency shower not operational. Return to compliance 10/09/1998.
10/14/1998	TSCA PCB Inspection	U.S. EPA	No violations.
11/24/1998	Compliance Evaluation Inspection	DTSC	No violations.
12/30/1998	Compliance Evaluation Inspection	DTSC	No violations.
02/02/1999	Compliance Evaluation Inspection	DTSC	No violations.
03/10/1999	Follow-up Inspection	DTSC	No violations.
04/30/1999	Follow-up Inspection	DTSC	No violations.
05/21/1999	Follow-up Inspection	DTSC	No violations.



**TABLE 4 (CONTINUED) – KHF RCRA/TSCA INSPECTIONS FROM 1992 TO PRESENT**

<b>DATE</b>	<b>TYPE OF INSPECTION</b>	<b>AGENCY</b>	<b>FINDINGS</b>
06/16/1999	Compliance Evaluation Inspection	DTSC	No violations.
09/08/1999	Compliance Evaluation Inspection	U.S. EPA	No violations.
09/28/1999	Follow-up Inspection	DTSC	No violations.
11/18/1999 – 11/19/1999 & 12/01/1999 – 12/02/1999	Financial Records Review	DTSC	RCRA violation. CWM reduced the face amount of their closure insurance without written approval from DTSC. \$5,000 penalty. Return to compliance 03/21/2000.
04/06/2000	Financial Record Review	U.S. EPA	No violations.
10/30/2000 – 11/03/2000	Compliance Evaluation Inspection	DTSC	RCRA violation. Biennial report data error from 1996-2000 and broken eyewash unit in the lab. Return to compliance 11/03/2000.
05/02/2001	Groundwater Operation and Maintenance Inspection	DTSC	No violations.
09/17/2001	Compliance Evaluation Inspection	DTSC	No violations.
10/25/2001	TSCA PCB Inspection	U.S. EPA	No violations.
02/26/2002	Groundwater Operation and Maintenance Inspection	DTSC	No violations.
09/16/2002	Compliance Evaluation Inspection	DTSC	No violations.
11/19/2002	Closure/Post-Closure Inspection	U.S. EPA	No violations.
06/10/2003	Groundwater Monitoring Evaluation	DTSC	RCRA violation. Violation related to sampling procedures - written informal enforcement action. Return to compliance 06/20/2003.
01/21/2004	Compliance Evaluation Inspection	DTSC	No violations.



**TABLE 4 (CONTINUED) – KHF RCRA/TSCA INSPECTIONS FROM 1992 TO PRESENT**

<b>DATE</b>	<b>TYPE OF INSPECTION</b>	<b>AGENCY</b>	<b>FINDINGS</b>
02/13/2004	Facility Self Disclosure	CWM	TSCA violations. See description in narrative.
03/15/2004	Compliance Evaluation Inspection	DTSC	No violations.
04/14/2004	TSCA PCB Inspection	U.S. EPA	No violations.
06/15/2004	Groundwater Operation and Maintenance Inspection	DTSC	No violations.
09/30/2004	Financial Records Review	DTSC	No violations.
10/15/2004	Compliance Evaluation Inspection	U.S. EPA	No violations. RCRA inspection only.
11/09/2004	Compliance Evaluation Inspection	DTSC	No violations.
03/23/2005	Compliance Evaluation Inspection	DTSC	No violations.
08/22/2005 – 08/23/2005	Multimedia - TSCA/RCRA	U.S. EPA (NEIC)	TSCA violations. See description in narrative.
12/5/2005 – 12/16/2005	Multimedia - TSCA/RCRA	U.S. EPA (NEIC)	RCRA violations. See description in narrative.
01/11/2006	Compliance Evaluation Inspection	DTSC	No violations.
09/22/2006	Financial Records Review	U.S. EPA	No violations.
11/06/2006 – 11/16/2006	Compliance Evaluation Inspection	DTSC	No violations.
03/01/2007	Financial Records Review	DTSC	No violations.
11/15/2007	Compliance Evaluation Inspection	DTSC	No violations.
10/02/2008	Compliance Evaluation Inspection	DTSC	No violations.



**TABLE 4 (CONTINUED) – KHF RCRA/TSCA INSPECTIONS FROM 1992 TO PRESENT**

<b>DATE</b>	<b>TYPE OF INSPECTION</b>	<b>AGENCY</b>	<b>FINDINGS</b>
10/29/2008	Compliance Evaluation Inspection	DTSC	No violations
03/13/2009	Financial Records Review	DTSC	No violations
09/15/2009	Compliance Evaluation Inspection	DTSC	No violations.
10/06/2009	Financial Records Review	DTSC	No violations.
02/07/2010 – 02/12/2010	Compliance Evaluation Inspection & TSCA PCB Inspection	DTSC/U.S. EPA	RCRA violations and TSCA violations. See description in narrative.
06/02/2010	TSCA PCB Inspection	U.S. EPA	TSCA violations. See description in narrative.
11/12/2010	Air Monitoring of Evaporation Ponds	U.S. EPA	No violations.
02/22/2012	Operation and Maintenance Inspection	DTSC	No violations.
04/9/2012 – 04/10/2012 04/12-13/2012 – 04/13/2012	Compliance Evaluation Inspection	DTSC/U.S. EPA	RCRA violation. Failure to properly treat hazardous waste prior to disposal and failure to resolve a significant manifest discrepancy within 15 days of discovery. Minor, failure to sign and check the certification on CWM-KHF's Waste Treatment and Disposal Form. Return to compliance 03/22/2013.
05/09/2012	Facility Self Disclosure	CWM	TSCA violations. See description in narrative.
06/12/2012	Financial Records Review	DTSC	No violations.
11/29/2012	TSCA PCB Inspection	U.S. EPA	No violations.
04/23/2013 – 04/24/2013	Compliance Evaluation Inspection	DTSC	No violations.
05/20/2013	Financial Records Review	DTSC	No violations.





**TABLE 4 (CONTINUED) – KHF RCRA/TSCA INSPECTIONS FROM 1992 TO PRESENT**

<b>DATE</b>	<b>TYPE OF INSPECTION</b>	<b>AGENCY</b>	<b>FINDINGS</b>
02/14/2014	Facility Self Disclosure	CWM	<b>RCRA violations. One load of hazardous waste was disposed of in Landfill B-18 that exceeded the Universal Treatment Standard for selenium. Return to compliance 03/29/2014.</b>
02/19/2014	Focused Compliance Inspection (Groundwater)	DTSC	<b>No violations.</b>
03/18/2014	Compliance Evaluation Inspection	DTSC	<b>No violations.</b>
08/11/2014	Financial Records Review	DTSC	<b>No violations.</b>
09/24/2014	Focused Compliance Inspection	DTSC	<b>No violations.</b>
12/10/2014	Focused Compliance Inspection	DTSC	<b>No violations.</b>
03/17/2015 – 03/18/2015	Compliance Evaluation Inspection	DTSC	<b>RCRA violations. Failure to enter most appropriate hazardous waste code for manifest in two manifests and the appropriate unit volume in one manifest. Return to compliance 03/18/2015.</b>
04/28/2015	Financial Records Review	DTSC	<b>No violations.</b>
09/30/2015	Focused Compliance Inspection	DTSC	<b>No violations.</b>
10/02/2015	Facility Self-Disclosure		<b>RCRA violations. Storage of hazardous waste for more than 30 days in temporary storage area (KHF laboratory). Return to compliance 10/02/2015.</b>
12/29/2015	Focused Compliance Inspection	DTSC	<b>No violations.</b>
02/09/2016	Compliance Evaluation Inspection	DTSC	<b>RCRA violation. Failure to enter a California waste code on a manifest. Return to compliance 02/09/2016.</b>
02/29/2016	Financial Records Review	DTSC	<b>No violations.</b>



**TABLE 4 (CONTINUED) – KHF RCRA/TSCA INSPECTIONS FROM 1992 TO PRESENT**

<b>DATE</b>	<b>TYPE OF INSPECTION</b>	<b>AGENCY</b>	<b>FINDINGS</b>
09/14/2016	Focused Compliance Inspection	DTSC	No violations.
10/13/2016	Non-Financial Record Review	DTSC	RCRA violations. Failure to conduct and analyze the monitoring parameters listed in the Operation Plan of its RCRA Permit. DTSC concluded the groundwater data required were not received for many evaluation monitoring program wells for the 2014 calendar year. Additionally, wells within the Class I monitoring program were not monitored quarterly. Return to compliance 10/13/2016.
02/01/2017	Compliance Evaluation Inspection	DTSC	RCRA violation. Failure to label one hazardous waste container per RCRA regulations. Return to compliance 02/01/2017.
03/15/2017	Financial Records Review	DTSC	No violations.
05/02/2017– 05/03/2017	Focused Compliance Inspection (Groundwater)	DTSC	No violations.
08/17/2017	Compliance Evaluation Inspection	DTSC	No violations.
09/28/2017	TSCA Compliance Evaluation Inspection	U.S. EPA	No violations.
03/27-28/2018	Compliance Evaluation Inspection	DTSC	RCRA violations. Mistake on manifest paperwork and failure to close a single 55-gallon drum containing used oil filters. Return to compliance 04/26/2018.
04/10/2018	Financial Records Review	DTSC	No violations.
6/28/2018	Focused Compliance Inspection	DTSC	No violations.
09/11/2018	Focused Compliance Inspection	DTSC	No violations.



**TABLE 4 (CONTINUED) – KHF RCRA/TSCA INSPECTIONS FROM 1992 TO PRESENT**

<b>DATE</b>	<b>TYPE OF INSPECTION</b>	<b>AGENCY</b>	<b>FINDINGS</b>
<b>02/07/2019</b>	Focused Compliance Inspection	DTSC	<b>No violations.</b>
<b>04/16/2019</b>	Compliance Evaluation Inspection	DTSC	<b>Minor violations. Failure to label a container of hazardous waste container; failure to contain universal waste (batteries) in a structurally sound container. Return to compliance: 04/16/2019</b>
<b>05/21/2019</b>	Financial Records Review	DTSC	<b>No violations.</b>
<b>12/04/2019</b>	Focused Compliance Inspection	DTSC	<b>No violations</b>
<b>03/04/2020</b>	Compliance Evaluation Inspection	DTSC	<b>RCRA Minor violation. Two employees failed to complete all required training. Return to compliance 04/01/2020.</b>
<b>04/10/2020</b>	Financial Records Review	DTSC	<b>No violations.</b>

Sources: U.S. EPA 2018h, CWM 2018f, [https://www.envirostor.dtsc.ca.gov/public/eeerp\\_profile\\_report.asp?global\\_id=3002354](https://www.envirostor.dtsc.ca.gov/public/eeerp_profile_report.asp?global_id=3002354)



## **V. EVALUATION OF RISK OF INJURY TO HUMAN HEALTH AND THE ENVIRONMENT FROM PCB OPERATIONS AT THE KETTLEMAN HILLS FACILITY**

40 C.F.R. § 761.65(d)(2)(vi) requires U.S. EPA to determine that a PCB commercial storage facility will not pose an unreasonable risk of injury to health or the environment before granting an approval for its operations. 40 C.F.R. § 761.75(c)(3)(ii) allows U.S. EPA to include any requirements that we find necessary to ensure that operations of a chemical waste landfill do not pose an unreasonable risk of injury to health or the environment from PCBs.

### **A. EVALUATION OF RISK**

While there are many definitions of health and ecological risk, in this context U.S. EPA considers risk to be a measure of the likelihood of developing adverse human health or ecological impacts from exposure to environmental stressors. See <https://www.epa.gov/risk/about-risk-assessment#whatisrisk>.

A stressor is any physical, chemical, biological or social entity that can induce an adverse health impact. In this case we are assessing the risk, or likelihood of developing adverse human or ecological health impacts, from exposure to PCBs potentially released from the Kettleman Hills Facility.

In general terms, the likelihood of developing adverse health and ecological impacts from PCBs is influenced by the following factors:

- The amount (concentration) of PCBs in the environment (e.g., soil, water, air)
- The extent and nature of exposure that an individual or ecosystem has with the contaminant, and
- The intrinsic toxicity or potency of the PCB family of chemicals.

### **1. PCB ADVERSE HEALTH IMPACTS**

PCBs have been demonstrated to cause a variety of adverse health impacts. They have been shown to increase the likelihood (risk) of developing cancer in animals as well as several systemic, non-cancer health effects. Those include adverse impacts on the immune, reproductive, nervous and endocrine systems [ATSDR 2000]. For additional information on the health effects of PCBs, see <https://www.epa.gov/pcbs/learn-about-polychlorinated-biphenyls-pcbs#healtheffects>.

### **2. KETTLEMAN HILLS FACILITY CONCEPTUAL SITE MODEL AND POTENTIAL ROUTES OF PCB EXPOSURE**

A conceptual site model (CSM) is a representation of the linkages among contaminant sources, release mechanisms, and the potential pathways of human or ecosystem exposure. An exposure pathway describes the pathway a chemical or physical agent takes from its source to the exposed



individual (receptor). An exposure pathway analysis links the sources, locations and types of environmental releases with population locations and receptor activity patterns. A complete exposure pathway generally consists of four elements:

- a source and mechanism of chemical release,
- a retention or transport medium or media (e.g., soil, air),
- a point of potential human or ecological contact with the contaminated medium (referred to as the exposure point), and
- an exposure route (inhalation, ingestion or dermal uptake) at the contact point.

The likelihood, or risk, of developing adverse health impacts is dependent on all four elements of this exposure pathway remaining complete. If any element of this exposure pathway is missing, then the pathway is considered incomplete and the resultant health-risk to either humans or the environment is mitigated.

For the Kettleman Hills Facility, PCBs may be released from the Facility as either air emissions or in contamination of water. Air dispersion of PCBs can occur from volatilization (evaporation) of PCB liquids from open containers, from spills and leaks, and from the surface of the landfill. It can also occur if PCB-containing soils become airborne during storage, treatment or disposal operations or during high winds. Water contamination can occur if stormwater contacts PCB waste and is not properly managed onsite and if leaks from the PCB landfills or from the storage containment areas impact groundwater.

A schematic conceptual site model (CSM) for the landfills at Kettleman Hills Facility is provided in **Figure 4** below.

### 3. NUMERICAL ESTIMATES OF HEALTH-RISK

U.S. EPA's National Oil and Hazardous Substances Pollution Contingency Plan (NCP) [40 C.F.R. Part 300] and risk-assessment guidance<sup>9</sup> specifies the Agency's acceptable threshold for cancer-causing constituents. Cancer risk is a measure of the likelihood of developing cancer from exposure to a cancer-causing contaminant. The acceptable risk-range for carcinogens spans from 1 additional case of cancer in 1 million exposed individuals ( $1E^{-6}$ ) to 100 additional cases of cancer in 1 million ( $1E^{-4}$ ) exposed individuals. See 40 C.F.R. § 300.430(e)(2)(i)(A)(2). The current background incidence of cancer in the United States is 1 case in 3. See <https://seer.cancer.gov/statfacts/html/all.html>.

U.S. EPA assesses the potential for developing non-cancer or systemically-toxic adverse health impacts from chemical exposures by initially identifying the minimum concentration of the contaminant that has not been associated with inducing an adverse health impact. This contaminant concentration is then reduced by a number of safety and modifying factors to further reduce the

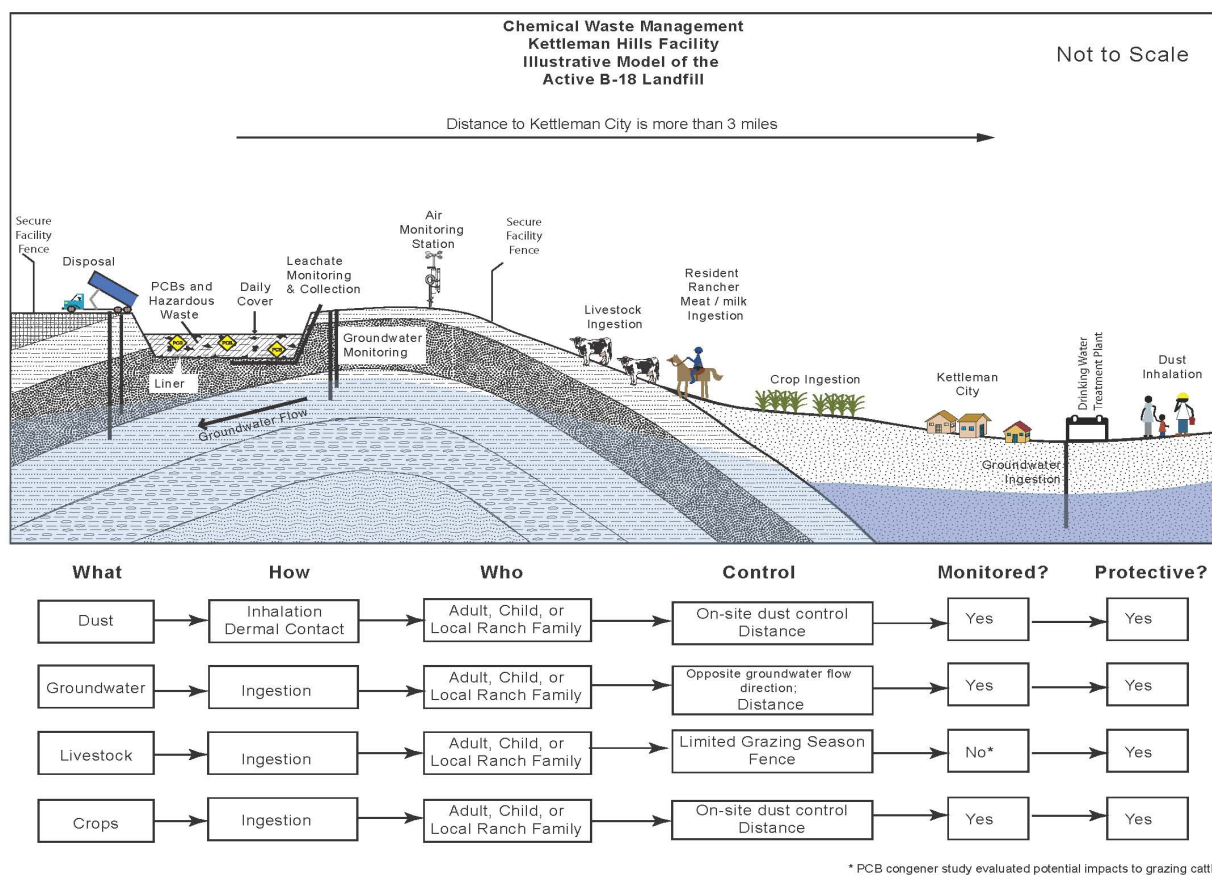
<sup>9</sup> See "Risk Assessment Guidance for Superfund (RAGS) – Volume 1 Human Health Evaluation Manual (EPA/540/1-89/002)." U.S. EPA. December 1989 found at [https://www.epa.gov/sites/production/files/2015-09/documents/rags\\_a.pdf](https://www.epa.gov/sites/production/files/2015-09/documents/rags_a.pdf)



contaminant concentration below a level of concern even for sensitive individuals or subgroups. See 40 C.F.R. § 300.430(e)(2)(i)(A)(1).

This conceptual approach allows U.S. EPA to arrive at an estimate of a daily exposure amount for PCBs that is likely to be without appreciable risk of deleterious impacts over a lifetime. This exposure amount is referred to as a reference dose (RfD) for oral (ingestion) exposures and/or a reference concentration (RfC) for inhalation exposures. The RfD for PCBs is  $2 \times 10^{-5}$  milligrams of PCBs per kilogram of body weight per day (mg/kg-day).

**FIGURE 4 – CONCEPTUAL SITE MODEL FOR THE KETTLEMAN HILLS FACILITY**



## B. EXISTING PCB SCIENTIFIC AND PUBLIC HEALTH STUDIES

There have been several multidisciplinary studies and investigations evaluating potential public health and environmental impacts of the Kettleman Hills Facility. We focus in this section on those that evaluate PCBs. We discuss other non-PCB related studies and investigations in **section V.F.** below.



## 1. THE PCB CONGENERS STUDY AND RISK ASSESSMENT

In response to community concerns, U.S. EPA requested Chemical Waste Management, Inc. to study possible off-site impacts that PCB disposal operations at Kettleman Hills Facility may present to human health or the environment [U.S. EPA 2008b]. U.S. EPA requested the collection of soil, vegetation and air samples at the perimeter of the Facility and analysis of these samples for the 12 most toxic PCB congeners.<sup>10</sup> This sampling took place during 2009. The results of this sampling were then used to assess risk to human health and the environment from PCB operations at the Facility. These studies are collectively referred to as the Dioxin-Like PCB Congeners Study Report (“PCB Congeners Study”) [Wenck 2010].

U.S. EPA worked closely with Chemical Waste Management to: 1) design the study; 2) review and approve all sampling plans to ensure that Agency standards and protocols were met; 3) oversee sample collection; 4) collect soil split samples; 5) review all of the data against Agency quality assurance/quality control standards; and 6) review and approve the risk analysis report. We also worked closely with the community, including providing multiple opportunities for study design input.<sup>11</sup>

U.S. EPA reviewed the PCB Congeners Study report and its associated risk analysis report. The study found no evidence suggesting that PCB congeners from operations at KHF migrate off-site at concentrations that would adversely impact the health of nearby residents or the environment. Based on the study results, U.S. EPA concluded the following:

- Concentrations of the most toxic PCB congeners in soil samples collected at the perimeter of the Kettleman Hills Facility are significantly below U.S. EPA’s health-based clean-up levels.
- Risk of health impacts from PCB congener concentrations measured in soils, vegetation, and air near the perimeter of the Facility are in the same range as risk of health impacts in other rural areas without known PCB activities or sources.
- Concentrations of PCB congeners measured in soils, vegetation and air at the Facility perimeter as well as those collected at the Landfill B-18 landfill drainage swale do not adversely affect ecological species.
- There is no evidence suggesting that PCBs are migrating off-site at concentrations that would adversely affect the health of local community residents or the environment.

More information on the results and conclusions of the PCB Congeners Study can be found in the study’s final report a copy of which is located in the administrative record for this action.

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<sup>10</sup> PCBs are a group of man-made chemicals that contain 209 individual compounds known as congeners. Twelve of these 209 congeners have been identified by the World Health Organization as having dioxin-like properties and most toxic to human health and the environment. Typically, PCBs are analyzed for Aroclors, which are a mixture of PCB congeners; however, for the PCB Congeners Study, U.S. EPA required the collected samples to be analyzed for the subset of 12 dioxin-like congeners because they are the most significant contributors to risk from PCBs.

<sup>11</sup> More information on this community outreach and involvement is in section 6.1 of the Draft Environmental Justice Analysis which can be found in [Appendix G](#) of this SB.



During the public comment period, U.S. EPA received comments that it improperly relied on the PCB Congeners Study in making the determination that operations at the Kettleman Hills Facility, under the terms and conditions of the Approval, would not pose an unreasonable risk of injury to health or the environment. The PCB Congeners Study was one of several studies that U.S. EPA evaluated to determine the health risk from PCB releases from the Kettleman Hills Facility. Because any individual study may suffer from flaws that undermine its conclusions, U.S. EPA relied on conclusions drawn from multiple studies in making the determination of no unreasonable risk. See Appendix K, responses to comments **D-21** and **D-22**.

## **2. THE KETTLEMAN CITY COMMUNITY EXPOSURE ASSESSMENT**

The Community Exposure Assessment was conducted by the California Environmental Protection Agency (CalEPA) to assess potential environmental contamination in the air, groundwater and soils in Kettleman City that could cause birth defects and other potential health risks to the community [CalEPA 2010]. The Assessment was concurrent with and in support of California Department of Public Health's (CDPH) investigation into an increase in the number of birth defects in Kettleman City during 2007-2010.<sup>12</sup> The list of chemicals evaluated included PCBs as well as a broad range of industrial and commercial chemicals (volatile and semi-volatile organic compounds), metals, and pesticides [CalEPA 2010, pp. Cal/EPA-9 - 15].

Responsibility for the Assessment was divided among several CalEPA boards and departments including the California Air Resource Board (CARB), DTSC, and the California Department of Pesticide Regulations (CDPR). More detailed discussion of each agency's investigation as it relates to PCBs is below. More details on the investigations as they related to other chemicals and metals can be found in Draft Environmental Justice Analysis. See **section VI**, and **Appendix G**.

During the public comment period, U.S. EPA received a number of comments stating that there were significant flaws with the 2010 Investigation of Birth Defects and Kettleman City Community Exposure Assessment and that U.S. EPA improperly relied on the Investigation and Assessment in making the determination that operations at the Kettleman Hills Facility, under the terms and conditions of the Approval, would not pose an unreasonable risk of injury to health or the environment. The Investigation and Assessment are two of several studies that U.S. EPA evaluated to determine the health risk from PCB releases from the Kettleman Hills Facility. Because any individual study may suffer from flaws that undermine its conclusions, U.S. EPA relied on conclusions drawn from multiple studies in making the determination of no unreasonable risk. See Appendix K, responses to comments **D-21** and **D-23 through D-33**.

### ***a. KETTLEMAN CITY AIR QUALITY ASSESSMENT***

Air monitoring as part of the Community Exposure Assessment was planned and carried out by CARB with analyses of the PCB congener samples done by the U.S. EPA Laboratory [CalEPA

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<sup>12</sup> The final report for this investigation "Investigation of Birth Defects and Community Exposures in Kettleman City, CA" was issued jointly by the CDPH and CalEPA in December 2010 and consists of an executive summary and two parts. Part 1 contains the "Investigation of Birth Defects in Kettleman City" and "An Evaluation of the Pattern of Cancer Occurrences in the Vicinity of Kettleman City" both by CDPH. Part 2 is the "Kettleman City Community Exposure Assessment" by CalEPA. The final report without its appendices is listed in the **reference section** of this SB under CalEPA 2010. The appendices, when referenced in this SB, are listed separately.



2010, p. Cal/EPA-23]. Air monitoring was conducted at three sites: Kettleman City Elementary School and the upwind monitoring site and downwind air monitoring site #2 at the Kettleman Hills Facility. Results from the monitoring showed that PCBs were found in the ambient air at concentrations similar to other parts of California with the concentration found at the Kettleman City Elementary School monitoring site a little higher than found upwind and downwind of the Facility. The ambient concentrations of PCB congeners found at all these sites were well below the level of health concern [CalEPA 2010, p. Cal/EPA-57].

Overall, CalEPA concluded that the air monitoring indicated that the Kettleman Hills Facility did not affect the ambient concentrations of the chemicals found in the air of Kettleman City. It also concluded that it was not likely that airborne contaminants measured during the study at the Facility pose health risks to the residents of Kettleman City [CalEPA 2010, part 2, p. 58].

#### ***b. KETTLEMAN CITY WATER QUALITY ASSESSMENT***

Sampling of water in Kettleman City as part of the Community Exposure Assessment was planned and carried out by DTSC with analyses of the samples done primarily by the U.S. EPA Region 9 Richmond Laboratory [CalEPA 2010, p. Cal/EPA-28]. Water samples were taken from eleven home kitchen sink faucets, the three community water wells, the California Aqueduct, and an agricultural drainage canal. Three of the residential water samples and all well and canal samples were analyzed for PCBs. No PCBs were detected in any sample [CalEPA 2010, pp. Cal/EPA-51, 53, and 54].

Multiple lines of scientific evidence have indicated that groundwater beneath Kettleman Hills Facility is not hydraulically connected to the groundwater underlying Kettleman City [CalEPA 2010, p. Cal/EPA-17; RWQCB 2014a, p. 3]. This means that groundwater below the Facility is hydraulically isolated from any drinking water source, and that groundwater is not considered to be a possible exposure pathway to residents through the consumption of contaminated drinking water.

#### ***c. KETTLEMAN CITY SOIL CONTAMINATION ASSESSMENT***

Sampling of soil in Kettleman City as part of the Community Exposure Assessment was planned and carried out by DTSC with analyses of the samples done primarily by the U.S. EPA Region 9 Richmond Laboratory [CalEPA 2010, pp. Cal/EPA-28]. Nine samples from residences distributed evenly across the community and four additional samples from the base of utility poles that had transformers<sup>13</sup> attached to them were analyzed for PCBs [CalEPA 2010, p. Cal/EPA-28; ACS 2010]. No PCBs were detected in any of the soil samples [CalEPA, p. Cal/EPA-55].

### **3. THE KETTLEMAN HILLS FACILITY 2011 HEALTH RISK ASSESSMENT**

DTSC required Chemical Waste Management, Inc. to establish an Ambient Air Quality Monitoring Program (AAMP) as part the Facility's 2003 RCRA permit. The AAMP was designed to assess releases of VOCs, semi-volatile compounds (including PCBs), metals, and particulates

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<sup>13</sup> Dielectric fluid in electrical transformers is the most common historical uses of PCBs. Leaks or other releases from PCB-containing transformers could contaminate the ground around the base of utility poles.



from the Facility. Historic waste profiles and the Facility's 1994 characterization study<sup>14</sup> were used to establish the list of chemicals of concern. The AAMP originally established three monitoring locations near the Facility's property line: two fixed locations downwind (south-southeast and east) and one fixed location upwind (north-northwest).<sup>15</sup> [Wenck 2016a]. More information on the AAMP can be found in section III.F.2. of this SB.

In 2011, the Kettleman Hills Facility evaluated ambient air quality data from the three sampling stations between 2006 and 2010 and performed a risk assessment using these data to evaluate potential risks to human health in the area surrounding the Facility from emissions from the Facility [Wenck 2011c].

This study included two components, an "Inhalation Health Risk Assessment" (HRA) and a "Residential HRA." The Inhalation HRA evaluated risks from potential emissions from the Facility to a hypothetical ranch worker working next to the Facility's property line and for a hypothetical commercial/industrial worker working at a facility located next to the property line. The "Residential HRA" evaluated risks from potential emissions from the Facility for four different scenarios. Three scenarios covered residential areas in and around Kettleman City (Kettleman City, Kettleman Junction and the nearest resident to the Facility). The fourth scenario was a hypothetical long-term resident rancher living right next to the Facility's property line. All four residential risk assessments evaluated risks associated with potential emissions from KHF. The assessment found that potential emissions of PCBs as well as VOCs, pesticides, metals, and particulates from Kettleman Hills Facility do not pose health risks in residential areas in and around Kettleman City for the following reasons:

- The risk results for additional lifetime cancer risks and noncancer health effects at all three residential locations in and around Kettleman City were well below target risk levels identified by U.S. EPA.
- The calculated risks in and around Kettleman City associated with KHF emissions were at least 1,000 times lower than the calculated background inhalation risk.
- The potential worst-case additional lifetime cancer risks for a hypothetical long-term resident rancher living at the maximum impact property boundary location, were within U.S. EPA's target risk management range.
- The potential lifetime cancer risks due to the Facility's emissions for a hypothetical commercial/industrial worker working at the maximum impact property boundary

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<sup>14</sup> Under DTSC guidelines, an independent firm conducted the "1994 Topographical, Meteorological and Airborne Contaminant Characterization at Kettleman Hills Facility" [Rust 1995]. The purpose of this study was to "identify and quantify hazardous constituents being emitted into the air from the facility and to fully characterize the topography and meteorological conditions at the facility which would affect their transport." [Rust 1995, p. v].

<sup>15</sup> The 2014 RCRA permit modification required installation of a fourth permanent station between the Facility and Kettleman City. DTSC approved the siting of this new monitor in May 2016 [DTSC 2016] and it began operating later that year. This additional ambient air monitoring location was added to assess releases of VOCs, semi-volatile organic compounds (including PCBs), metals and particulates that are emitted when the predominant wind direction is toward Kettleman City.



location were at the low end of USEPA's benchmark risk management range, and marginally higher than the DTSC benchmark risk level.

- The risk results for noncancer health effects for all scenarios (the Hazard Index) were well below target risk levels identified by U.S. EPA.

Chemical Waste Management, Inc. annually prepares and submits to DTSC a screening level human risk evaluation which updates the 2011 Health Risk Assessment using the most recent year's ambient air monitoring data. Annual screening reports have been submitted for 2012, 2013, 2014, 2015, 2016, 2017, and 2018. None have shown substantial differences in human health risks from Facility air emissions compared to the 2011 assessment [Wenck 2012c, Wenck 2013b, Wenck 2014a, Wenck 2015b, Wenck 2016b, Wenck 2017a, Wenck 2018a].

### C. AIR QUALITY AND GROUNDWATER MONITORING

U.S. EPA reviewed available ambient air quality monitoring data that has been collected at the Kettleman Hills Facility's monitoring stations since the conclusion of the PCB Congeners Study. We also reviewed groundwater monitoring data collected after completion of the Kettleman City Community Exposure Assessment. We reviewed this data to determine if PCB releases from the Facility have been detected since these studies concluded.

The air quality and groundwater monitoring programs at the Kettleman Hills Facility have been on-going for many years under the Facility's state RCRA permit and waste discharge order [DTSC 2003; RWQCB 2014b]. The Facility's previous TSCA approvals also required groundwater monitoring [U.S. EPA 1992b].

Since the current program of air monitoring at the Facility started in October 2006 until 2016, air samples for PCB analysis were collected once every 12 days for 24-hours each.<sup>16</sup> In 2016, month long sampling for PCBs was added [Wenck 2016; DTSC 2016]. U.S. EPA reviewed air monitoring reports submitted by the Facility between 2011 and 2018 to determine if PCBs have been detected at the Facility's air monitors.<sup>17</sup> No PCBs have been detected above the applicable detection limits. [Wenck 2011a, b, & d; Wenck 2012a, b, d, & e; Wenck 2013a & c-e; Wenck 2014b-d; Wenck 2015a& c-e; Wenck 2016a& c-e; Wenck 2017b-e; Wenck 2018b-e; Wenck 2019a-d; Wenck 2020a].

Groundwater monitoring data has been collected at the Kettleman Hills Facility for over 30 years. Currently, groundwater samples are tested for PCBs once every five years as part of the constituents of concern (COC) testing required by the RWQCB and DTSC. The last COC testing was conducted in the fourth quarter of 2016 (October through December 2016) [AMEC 2017].

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<sup>16</sup> From mid-April 2008 until early January 2011, PCB monitoring under the Facility's AAMP was discontinued with DTSC's approval because no PCBs above the detection limits had been identified in the 18 months of sampling prior to 2008 [Wenck 2010, p. 2-6.]. However, during this period, air monitoring for PCBs was conducted throughout 2009 as part of the PCB Congeners Study [Wenck 2010, p. 3-5] and again between mid-June and September, 2010 for the Kettleman City Environment Assessment [CARB 2010].

<sup>17</sup> Air monitoring data prior to 2009 were reviewed as part of the PCB Congeners Study. No PCBs were identified above the detection limit [Wenck 2010, p. 2-6].



Previous COC testing was performed in the first quarter of 2012 [AMEC 2012]. PCBs were not detected in either of these tested samples.

#### **D. EXISTING AND NEW PHYSICAL AND OPERATIONAL CONTROLS TO LIMIT RISK**

The design of the PCB Units and required operational controls at Kettleman Hills Facility address each of the pathways that PCBs may travel offsite to reduce the potential for PCB releases.

The potential for air emissions of PCBs is reduced through requirements for:

- keeping containers closed when waste is not being transferred in or out (Approval Condition V.D.5.),
- a carbon filter on PCB Storage Tank vent (Approval Condition V.F.7.),
- swift cleanup of spills (Approval Conditions IV.G.1. and 2.),
- regularly inspection of containers and tanks for leaks (Approval Condition V.H.1.),
- solidification of liquids prior to landfiling (Approval Conditions VI.B.1.i. and r.),
- daily landfill cover (Approval Condition VI.D.7.),
- dust management practices (Approval Conditions IV.F.5. and VI.D.8.), and
- cessation of landfiling operations during high wind events (Approval Condition VI.D.8.).

The potential for PCB contamination of stormwater is reduced through requirements for:

- design of landfill to prevent run on and runoff (Approval Conditions VI.F.1. and 2. and VII.B.3.e.),
- collection of stormwater that contacts waste (collected stormwater is treated as hazardous waste) (Approval Conditions VI.F.1., 2. and 3.),
- implementation of a pollution prevention program for stormwater (Approval Condition VI.F.1.),
- limiting amount of PCB waste that can be stored to 25 percent of available containment volume (Approval Condition V.C.1.),
- PCB Waste handling and storage operations to occur within containment areas (Approval Conditions V.E.1.), and
- sizing of outside containment area to account for a maximum rain event (Approval Condition V.C.1. and Renewal Application, Attachment 7).

The potential for PCB contamination of groundwater is reduced through requirements for:

- no disposal of PCB liquids in Landfill B-18 (Approval Condition VI.C.2.),





- lined landfills (Renewal Application, Section 5.1),
- leachate collection and removal systems (Approval Conditions VI.E. and VII.B.3.b.);
- inspection and maintenance of covers on closed landfills ( Approval Condition VII.B.3.d.),
- maintenance of the containment areas at the PCB F/SU (Approval Conditions V.H.4), and
- the conditions listed previously to reduce PCB contamination by stormwater.

#### **E. MONITORING REQUIREMENTS TO IDENTIFY PCB RELEASES**

The Kettleman Hills Facility has ambient air and groundwater monitoring programs that can detect releases of PCBs. These programs were designed in conjunction with the DTSC (air and groundwater) and the Central Valley Regional Water Quality Control Board (groundwater) to provide the information needed to protect human health and the environment. In addition to these environmental monitoring program, the Facility has a comprehensive facility inspection program which requires daily, weekly, and monthly checks of all aspects of the Facility's operations and quarterly tests the PCB Flushing/Storage Unit for PCB contamination. These programs are described in **section III.F.** of this SB.

#### **F. FINAL DETERMINATION**

U.S. EPA has determined that PCB waste storage, treatment for disposal, and disposal operations at the Kettleman Hills Facility as allowed and limited by the Approval will not pose an unreasonable risk of injury to health or the environment.

This risk-based determination is predicated on the analysis of a number of objective, site-specific and multidisciplinary scientific investigations which collectively assessed the exposure threat and health-risk posed by potential PCB releases from the Kettleman Hills Facility. This risk-based determination is also contingent upon the multimedia monitoring and surveillance requirements for PCBs, as discussed above, as well as design and operational controls imposed on the Facility in the Approval.

Any individual scientific study or environmental investigation may suffer from data gaps, study-design limitations and confounding factors that collectively serve to undermine the findings or conclusions that can be drawn from that study. Because of these vulnerabilities, rather than rely on any single study, this determination relies on the findings and conclusions drawn from a number of multidisciplinary and complementary site or community-specific scientific investigations. This strategic approach allows U.S. EPA to assess the overarching weight of the scientific evidence regarding the exclusive relationship between potential PCB releases and the likelihood or magnitude of adverse health impacts within the Kettleman City community. Collectively, these studies focused on the potential relationship between PCBs released from the Facility and the wide-ranging public health impacts documented in Kettleman City (see Environmental Justice



Analysis, section 3.4). These studies were not able to identify PCB concentrations above a level of concern, nor unacceptable health risk-estimates to either residents or Facility (on-site) workers. Further, based on comprehensive monitoring and surveillance information, the concentration of PCBs found at locations proximate to the Facility are consistent with the concentrations of PCBs found in many rural areas of California's Central Valley [Wenck 2010; EPA 2007b]. These PCB concentrations are also consistent with the concentration of PCBs found by a separate U.S. EPA investigation in undisturbed wilderness locations of the U.S. [Wenck 2010; EPA 2007b].

U.S. EPA acknowledges this determination is predicated exclusively on the potential PCB releases and consequences from the Kettleman Hills Facility. By definition then, the scientific criteria evaluated in support of this determination are not inclusive of the social determinants of health which negatively impact the residents of Kettleman City. Unfortunately, other environmental and social stressors which potentially impact the public health status of this community—such as high levels of arsenic in drinking water and low incomes—remain beyond the scope of this regulatory action under TSCA. U.S. EPA has evaluated these stressors for the Kettleman City community in the Environmental Justice Analysis that accompanies this final action. See **section VI**, and **Appendix G**. Nevertheless, TSCA does allow U.S. EPA to impose PCB control and monitoring requirements as necessary to ensure that the Kettleman Hills Facility does not pose an unreasonable risk to public health or the environment. U.S. EPA believes the multimedia controls and monitoring requirements included in the Approval ensure this level of protection.

U.S. EPA received numerous comments objecting to its determination that PCB operations at the Kettleman Hills Facility under the terms and conditions of the Approval would not pose an unreasonable risk to health or the environment. It also received comments raising issues with the investigations underlying the determination. We evaluated and responded to each comment received. See Appendix K, **section D**. No comments raised issues or provided new information that lead U.S. EPA to revise its determination.

A number of other environmental and health studies and investigations have evaluated potential contaminants other than PCBs in Kettleman City and the Kettleman Hills Facility. These studies and investigations were not able to correlate or characterize a causal relationship between facility operations, facility releases and the public health impacts that have been previously documented within the Kettleman City community. A synopsis of these studies found in the Draft Environmental Justice Analysis in **Appendix G**.

## VI. ENVIRONMENTAL JUSTICE ANALYSIS

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Achieving environmental justice is a U.S. EPA priority and is an integral part of the U.S. EPA's mission to protect human health and the environment.



As part of its decision process on CWM's application to renew and modify its TSCA approvals, U.S. EPA prepared an Environmental Justice (EJ) Analysis (**Appendix G**). U.S. EPA focused the EJ Analysis on Kettleman City. The Kettleman City community has a long history of advocating for environmental justice in local, state, and federal decisions related to the Facility. This history of advocacy has already helped the community in the ways discussed in the EJ Analysis and has also helped U.S. EPA to prepare the Analysis and the proposed and final Approval.

Prior to proposing the Approval, U.S. EPA considered publicly available data, tools, studies, and concerns expressed by the community to focus on potential health and environmental impacts that are within U.S. EPA's legal authority to address during the permitting process. Multiple objective, site-specific and multidisciplinary scientific investigations have been completed since 2007, giving U.S. EPA information to better understand any exposure threat or potential health risks posed by Facility operations. Previous and more recent outreach activities have also helped U.S. EPA engage with Kettleman City to identify and address community concerns both inside and outside the scope of the PCB action. U.S. EPA's findings, based on the information detailed in the analysis, can be summarized as follows:

- U.S. EPA acknowledges that the majority of Kettleman City residents are minority and low-income. It also shows that Kettleman City has an above average number of residents whose primary language is Spanish and above average number of adults that did not graduate high school. Kettleman City faces several environmental burdens including poor air quality and drinking water that exceeds the state drinking water quality standards for arsenic. In past years, the community suffered an increased occurrence of birth defects. Mortality rates in Kings County are higher than the state-wide rates and children and older adults in Kings County are more impacted by asthma than the state average.
- U.S. EPA reviewed air monitoring between 2011 and 2018. PCBs have not been detected above the applicable detection limits.
- Groundwater monitoring has been conducted at the Facility for over 30 years. PCBs have rarely been detected.
- The PCB Congeners Study found no evidence suggesting that PCB congeners from operations at the Facility are migrating off-site at concentrations that would adversely affect the health of local community residents or the environment.
- CWM has been responsive to RCRA and TSCA compliance issues. While KHF has violated applicable requirements in the past, the corrective actions that the Facility implemented to address these violations include physical and operational improvements to reduce the potential for future violations and to prevent and contain future releases.
- The Approval conditions will prevent or reduce releases, quickly discover and correct situations that could lead to releases or minimize releases that may happen and continue Facility-specific air and groundwater monitoring for PCBs.



U.S. EPA's determination is that the Approval will ensure that PCB operations at the Kettleman Hills Facility will not pose an unreasonable risk of injury to health or the environment. The Approval includes engineering and operational controls that prevent or reduce the likelihood of PCB releases from the facility. It also includes facility PCB monitoring requirements for air and water that will provide additional information to protect the community. The Approval decision is supported by a number of multidisciplinary public health investigations conducted or required by local, state and federal agencies. Collectively, these studies have shown no increased human health risk to the community from PCB operations at this facility.

U.S. EPA has prepared an Updates and Revisions document to supplement the Draft EJ Analysis. These updates and revisions include information reflecting comments received on the proposed permit and Draft EJ Analysis, updated information, and other revisions and corrections. The EJ Analysis including the Updates and Revisions document can be found in **Appendix G**. U.S. EPA also received numerous comments on the Draft EJ Analysis. The Agency has summarized, evaluated and responded to each comment received. See Appendix K, **section E**.

## VII. SUPPORTING DETERMINATIONS

U.S. EPA requested comments on its determinations supporting the proposed Approval of CWM's Renewal Application. No comments were received objecting to any of these supporting determinations.

### A. NATIONAL HISTORIC PRESERVATION ACT

Section 106 of the National Historic Preservation Act ("NHPA"), 54 U.S.C. §100101 *et seq.*, requires federal agencies to account for the effects of their undertakings on historic properties, and afford consulting parties and the public reasonable opportunity to comment. The requirements of NHPA apply to the U.S. EPA for the renewal and modification of the TSCA Approvals for CWM to manage PCB waste at the Facility because issuance of this Approval is an "undertaking" pursuant to NHPA.

Pursuant to 36 C.F.R. § 800.4(d)(1), U.S. EPA made the determination of "No Effect to Historic Properties" for the renewal and modification of the Approvals in a letter to the California Office of Historic Preservation ("OHP") on September 17, 2018 [U.S. EPA 2018f]. The OHP's State Historic Preservation Officer concurred with U.S. EPA's determination in a letter dated October 8, 2018 [COHP 2018].

On September 28, 2017, U.S. EPA submitted a request for a Sacred Lands File and Native American Contacts List to the Native American Heritage Commission (NAHC), located in Sacramento, California [U.S. EPA 2017a]. In an October 17, 2017 letter to U.S. EPA, the NAHC indicated that a Sacred Lands File Search was completed for the Area of Potential Effect with negative results [NAHC 2017]. NAHC also responded with a Native American Contact List which the U.S. EPA used to contact Tribes listed via certified mail on July 25, 2018, with a written



description of the project and a request for each tribe to become a consulting party [U.S. EPA 2018a-e]. We received confirmation of receipt for all letters. No Tribes responded to our request.

Key documents related to U.S. EPA's determination under the NHPA can be found in **Appendix H**. Additional information is located in the administrative record.

## **B. ENDANGERED SPECIES ACT**

Section 7(a)(2) of the Endangered Species Act ("ESA") [16 U.S.C. § 1536(a)(2)] requires all Federal agencies, in consultation with the United States Fish and Wildlife Service ("FWS"), to insure that any action they carry out, fund, or authorize (such as through a permit) is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat.

U.S. EPA considers issuance of a TSCA approval as an action subject to the ESA. To assist the Agency in fulfilling its obligations under Section 7 of the ESA, U.S. EPA required that Chemical Waste Management, Inc. identify any listed species (e.g., Kit Fox) and designated critical habitat that may be present at or near the Facility; conduct soil, air, and vegetation sampling for PCB congeners [U.S. EPA 2008b]; develop an ecological risk assessment; and develop a biological assessment. On September 20, 2011, U.S. EPA requested formal consultation with FWS on CWM's application for the renewal and modification of its TSCA Approval for the Kettleman Hills Facility [U.S. EPA 2011c]. FWS responded with a final Biological Opinion dated August 15, 2012 [FWS 2012a], which was amended on September 5, 2012 [FWS 2012b] and July 23 and 30, 2014 [FWS 2014a and FWS 2014b]. A copy of the amended 2012 Biological Opinion that includes conditions of the Biological Opinion is included in the Administrative Record. These conditions include:

- CWM and KHF employees and/or contractors must adhere to the standard operational measures set forth in the FWS's revised January 2011 (as updated) *Standard Measures for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance Construction and Operation Requirements*. Requirement is included in Approval Condition IV.B.3.
- Disturbance to all San Joaquin kit fox dens shall be avoided to the maximum extent possible and if dens or potential dens are identified monitoring and/or excavation of those dens shall take place. This requirement is included in Approval Condition IV.B.3.
- All exclusionary fencing shall be inspected monthly to ensure proper integrity and if gaps and/or holes are discovered operational activities shall cease and the project footprint shall be resurveyed for San Joaquin kit fox. Requirement is included in Approval Condition IV.I.2.



- EPA shall verify the CWM purchase of San Joaquin kit fox conservation credits at a conservation bank with an appropriate service are and at a ratio of three acres of conservation habitat purchased for every one acre of habitat lost.<sup>18</sup>

**Table 5** provides the FWS species list of federal endangered and threatened species that may be present in the area of the Proposed Project (operations at the Kettleman Hills Facility). Of the species on that list, the Proposed Project could affect the following federally and state listed species. U.S. EPA has checked that FWS has not revised the list of federal endangered and threatened species that may be present at the Kettleman Hills Facility and has determined that the species and conditions have not changed since the proposed Approval [EPA 2020] and **Appendix I**.

**TABLE 5 – FEDERAL ENDANGERED AND THREATENED SPECIES POTENTIALLY PRESENT AT THE KETTLEMAN HILLS FACILITY**

SPECIES	CRITICAL HABITAT	STATUS	EFFECTS DETERMINATION
San Joaquin kit fox ( <i>Vulpes macrotis mutica</i> )	None	Federally Endangered, State Threatened	May affect, and is likely to adversely affect
Blunt-nosed leopard lizard ( <i>Gambelia sila</i> )	None	Federally and State Endangered, State Fully Protected	May affect, but not likely to adversely affect
San Joaquin woolly-threads ( <i>Lambertia condonii</i> )	None	Federally Endangered	May affect, but not likely to adversely affect
California jewelflower ( <i>Caulanthus californicus</i> )	None	Federally and State Endangered	May affect, but not likely to adversely affect

On October 11, 2018, U.S. EPA concluded that the reinitiation of formal consultation with FWS was not needed [U.S. EPA 2018i]. U.S. EPA determined that none the of the four conditions for reinitiation of formal consultation, as provided in the 2012 Biological Opinion, were met and therefore the scope of the Approval has been addressed in the Biological Opinion. On December 7, 2018, FWS concurred with U.S. EPA’s determination [FWS 2018]. See **Appendix I**.

### C. WILD AND SCENIC RIVERS ACT

The Wild and Scenic Rivers Act, (“WSRA”) 16 U.S.C. § 1273, *et seq.* Section 7 of the WSRA prohibits federal agencies from assisting the licensing or construction of any water resources project that would have a direct, adverse effect on the values for which a national wild and scenic river was established.

The issuance of TSCA Approval to the Kettleman Hills Facility is not subject to the WSRA because it is a not a water resources project as defined in section 16(b) of the WSRA and the

<sup>18</sup> CWM purchased the required San Joaquin kit fox credits at the Kreyenhagen Hills Conservation Bank on March 27, 2013 [WDLN 2013].





Facility is not located within the bed or banks upstream, downstream, or on a tributary to a Wild and Scenic River corridor.

#### **D. COASTAL ZONE MANAGEMENT ACT**

The Coastal Zone Management Act, 16 U.S.C. § 1451, *et seq.* Section 307(c) of the Coastal Zone Management Act, and its implementing regulations at 15 C.F.R. Part 930, prohibit federal agencies from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the state Coastal Zone Management program, and the state or its designated agency concurs with the certification (or the Secretary of Commerce overrides the State's non-concurrence).

The Coastal Zone Management Act does not apply to this Approval because the Kettleman Hills Facility does not lie within the California Coastal Zone management program as defined by the State of California. See <https://www.coastal.ca.gov/maps/czb/>

#### **E. FISH AND WILDLIFE COORDINATION ACT**

The Fish and Wildlife Coordination Act, 16 U.S.C. § 661, *et seq.* requires federal agencies, before issuing a permit proposing or authorizing the impoundment (with certain exemptions), diversion, or other control or modification of any body of water, consult with the appropriate state agency exercising jurisdiction over wildlife resources to conserve those resources.

The Fish and Wildlife Coordination Act does not apply to this Approval because it neither proposes nor authorizes the impoundment, diversion, or other control or modification of any body of water.

#### **F. GENERAL CONFORMITY UNDER THE CLEAN AIR ACT**

##### **1. GENERAL CONFORMITY REQUIREMENTS**

Section 176(c) of the Clean Air Act (CAA) [42 U.S.C. § 7506(b)] requires all federal agencies ensure their actions conform to states' plans to attain and maintain the National Ambient Air Quality Standards (NAAQS). Conformity to a state's air quality plan means that a federal activity will not cause new violations of the NAAQS, increase the frequency or severity of NAAQS violations, or delay timely attainment of the NAAQS or any interim milestone toward attainment. The conformity process ensures that emissions of air pollutants from planned federal activities would not affect the state's ability to attain and maintain the NAAQS.

A general conformity determination is based on emissions from the federal action. Federal agencies must evaluate and address both direct and indirect emissions that are likely to occur from an action. More information on general conformity requirements can be found at <https://epa.gov/general-conformity>.

U.S. EPA has adopted regulations at 40 C.F.R. Part 93, Subpart B to implement the CAA's general conformity requirements. The requirements of Part 93, Subpart B apply in areas where U.S. EPA has not approved a state (or tribal) General Conformity rule. See 40 C.F.R. § 93.151. Where U.S.



EPA has approved a state conformity rule, a conformity evaluation is governed by the approved state criteria and procedures. The Kettleman Hills Facility is located in jurisdictional boundaries of the San Joaquin Valley Air Pollution Control District (“SJVAPCD”). U.S. EPA approved the SJVAPCD’s general conformity rule, Rule 9110 (adopted October 20, 1994), on April 23, 1999 (64 FR 19916). We have, therefore, followed Rule 9110 for the purposes of this conformity analysis.

## 2. GENERAL CONFORMITY APPLICABILITY ANALYSIS

As noted above general conformity applies to non-transportation-related federal actions that take place in areas designated as nonattainment or maintenance for a NAAQS. The first step in the general conformity process is to determine if there is a federal action that requires a general conformity determination under 40 C.F.R. Part 93, Subpart B. This is the “applicability analysis” as defined in 40 C.F.R. § 93.152 and required by § 93.153.

The Approval for the Kettleman Hills Facility is a federal action that takes place in an area that is designated nonattainment or maintenance for a NAAQS. The Kettleman Hills Facility is located in Kings County which is part of the San Joaquin Air Basin. The San Joaquin Valley Air Basin is currently designated as nonattainment and classified as extreme for all ozone NAAQS, designated nonattainment and classified as serious for all fine particulate matter (PM<sub>2.5</sub>) NAAQSs and designated as a maintenance area for coarse particulate matter (PM<sub>10</sub>) NAAQS (40 C.F.R. § 81.305).

The General Conformity applicability requirements in Rule 9110 § 51.853 and 40 C.F.R. § 93.153 lists several types of projects that are exempted from the requirement for a general conformity determination, including 40 C.F.R. § 93.153(c)(ii)/Rule 9011 § 51.853(c)(2)(ii) which addresses continuing and recurring activities such as permit renewals where activities conducted will be similar in scope and operation to activities currently being conducted. The Approval for the Kettleman Hills Facility includes approval of both continuing and new activities, therefore, some portions of the Approval can be exempted from this general conformity applicability. However, we have chosen to include emissions from both continuing and new activities in this applicability analysis to be conservative in our estimate of potential emissions.

To determine if the Kettleman Hills Facility’s Approval is exempt from a general conformity determination due to de minimis emissions, U.S. EPA estimated the total direct and indirect emissions that could be emitted as a consequence of a final approval. As shown in **Table 6** below, total estimated direct and indirect emissions are well below de minimis emissions thresholds. In addition, Rule 9110 subjects any otherwise exempt federal project whose emissions are 10 percent or great of the nonattainment or maintenance area’s total emissions to a general conformity determination. Total direct and indirect emissions from a final approval are also well below 10 percent of the San Joaquin Valley air basin’s total emission inventories. Based our emission calculations, U.S. EPA’s TSCA Approval for Chemical Waste Management, Inc.’s Kettleman Hills Facility is exempt from a conformity determination under CAA section 176(c), SJVAPCD



Rule 9110, and 90 C.F.R. Part 93, Subpart B. A more detailed analysis is in **Appendix J** to this SB.

**TABLE 6 – ESTIMATED EMISSIONS FROM PCB OPERATIONS COMPARED TO APPLICABLE DE MINIMIS LEVELS – KETTLEMAN HILLS FACILITY**

	NO <sub>x</sub>	VOC	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO
	<i>tons per year</i>					
PCB F/SU operations	0.017	0.007	—	0.019	0.006	—
Landfill B-18 PCB waste operations	1.22	0.11	0.00	1.05	0.35	0.5
Total PCB operations	1.237	0.117	0.00	1.069	0.356	0.5
De minimis level	10	10	70	100	70	70
Above de minimis level?	No	No	No	No	No	No
10% of regional emissions	7,811	10,877	N/A	9,673	N/A	1,679
Above 10% of regional emissions?	No	No	N/A	No	N/A	No
Subject to general conformity determination?	No	No	No	No	No	No



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