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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement and Compliance Assurance
Office of Criminal Enforcement, Forensics and Training

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MULTIMEDIA COMPLIANCE INVESTIGATION: PHASE 2

Chemical Waste Management, Inc.
Kettleman City, California
Project No.: VP0686

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INTRODUCTION

The National Enforcement Investigations Center (NEIC) conducted a two-phase focused multimedia compliance investigation of the Chemical Waste Management, Inc. – Kettleman Hills facility in Kettleman City, California. The investigation was requested by U.S. EPA Region 9, and examined compliance with the federal Resource Conservation and Recovery Act (RCRA), the federal Toxic Substances Control Act (TSCA), and corresponding State of California environmental regulations. The first phase of the investigation, conducted on August 22 and 23, 2005, primarily evaluated compliance with TSCA sampling and analytical requirements. The results of the first phase were memorialized in a report transmitted to U.S. EPA Region 9 on January 17, 2006.

This report summarizes the results of the second phase of the investigation, conducted by NEIC at the facility from December 5 to 16, 2005. Where applicable, compliance-related observations from the August 2005 Phase 1 inspection are also presented in this report.

The scope of the second phase was to evaluate processing and disposal operations, including supporting activities such as laboratory testing and overall waste tracking, for compliance with applicable State and federal RCRA and TSCA regulatory controls (e.g., permits and codified regulations). In addition to a process overview, document review and unit inspection specific to each regulatory program, NEIC collected and analyzed samples of wastes treated to meet applicable RCRA Land Disposal Restriction (LDR) treatment standards.

The Chemical Waste Management, Inc., Kettleman Hills Facility (CWM-KHF) is located at 35251 Old Skyline Road in Kettleman City, California in western Kings County, approximately 2.6 miles west of the intersection of U.S. Interstate 5 and State Route 41. Geographically, the site is in the Kettleman Hills, which border the west side of the San Joaquin Valley. Facility coordinates are 35° 57' 48.78" north (latitude) and 120° 00' 21.45" west (longitude).

REGULATORY SUMMARY

CWM-KHF is a commercial hazardous waste treatment, storage, and disposal facility (TSDF). The facility accepts solid, semi-solid, and liquid hazardous and extremely hazardous wastes, including polychlorinated biphenyls (PCBs), as defined by the State of California (State). Most of the wastes managed by CWM-KHF are also subject to federal RCRA and TSCA regulatory control.

State and federal agencies involved in environmental regulatory matters at the facility include the U.S. EPA, the California Environmental Protection Agency Department of Toxic Substances Control (DTSC), the California Integrated Waste Management Board (CIWMB), and the California Regional Water Quality Control Board (CRWQB) – Central Valley Region. Local and county governmental agencies also provide environmental regulatory oversight.

On June 16, 2003, the DTSC re-issued the facility's hazardous waste permit (02-SAC-03) to store, treat, and dispose of State hazardous wastes on-site. In addition to its status as a permitted RCRA TSDF (U.S. EPA ID and State number CAT 000 646 117), CWM-KHF is classified as a large quantity generator. The State hazardous waste permit authorizes CMW-KHF to accept nearly every type and category of hazardous waste identified in the Code of Federal Regulations (CFR) Title 40, Part 261, and in the California Code of Regulations (CCR), Title 22, Chapter 11. The State permit allows the facility to conduct regulated activities in the following permitted units:

- Waste disposal in landfill B-18
- Solar evaporation treatment in surface impoundments P-9, P-14, P-16
- Drum/container storage in the Drum Storage Unit
- Bulk storage in Bulk Storage Units BSU 1 and BSU 2
- Treatment in final stabilization units FSU 1, 2, 3, and 4
- PCB flushing, draining, and storage in the PCB storage unit

Within the last 10 years, DTSC's yearly (except for a 2-year gap between 1998 and 2000) compliance inspections of CWM-KHF have noted either minor violations or no violations. The most recent inspection, summarized in a February 8, 2005, letter to CWM-KHF, noted no violations.

Regarding TSCA-regulated PCBs, U.S. EPA Region 9 originally issued an Approval to Operate to CWM-KHF on June 29, 1981. This federal PCB disposal permit authorized the disposal of non-liquid PCBs in landfill B-14. Subsequent modifications on February 16, 1983, February 22, 1988, and December 8, 1990 collectively authorized the disposal of certain, specified TSCA PCB wastes in landfill units B-16 and B-19. The permit was last amended on May 19, 1992, for land disposal of TSCA-regulated waste in landfill B-18.

Currently, landfill unit B-19 can no longer accept federal TSCA or State hazardous wastes, but is operating under a permit issued by the CIWMB to receive municipal/solid wastes. Landfill unit B-16 has been closed, and landfill B-18 is the only active landfill receiving RCRA hazardous, TSCA PCB, and California hazardous wastes. The last TSCA inspection by U.S. EPA Region 9 resulted in a May 3, 2005, administrative action for failure to monitor three lysimeters for PCBs.

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ON-SITE INSPECTION SUMMARY

The second phase of the NEIC inspection began on December 6, 2005, with an introductory meeting, and ended with a close-out meeting on December 15, 2005. NEIC was represented by Christine Alvarez, Robert Hoelscher, Don Smith, and Jacquelyn Vega. At times during the inspection, NEIC inspectors were joined by Ignacio Dominguez and Dale Hoverman of DTSC. During the introductory meeting, credentials were presented to Mr. Paul Turek, the CWM-KHF Environmental Manager, and Mr. Bob Henry, the CWM-KHF Director of Operations. Mr. Henry was advised of the right to assert a claim of "regular" Confidential Business Information (CBI) and TSCA CBI for information collected by NEIC. Mr. Henry stated that CWM-KHF would not be claiming any information as CBI or TSCA CBI.

During the close-out meeting on December 15, 2005, NEIC presented its preliminary findings from the on-site inspection. NEIC inspectors emphasized that the findings were preliminary, and that final determinations would be made in consultation with regional and state representatives.

The scope of the inspection (and this report) was to examine compliance with RCRA and TSCA provisions pertaining to the facility's operations. Although an assessment of the facility's environmental monitoring requirements was not within the scope of the inspection, a general discussion was held with facility representatives. Highlights are presented in this report.

During the course of the 8-day inspection, NEIC first conducted a process overview followed by RCRA and TSCA media inspections. Because CWM-KHF receives TSCA-, RCRA-, and state-regulated wastes together, NEIC sought to examine the overall integrity of its system for testing, tracking, treating and/or disposing (onsite and offsite) of off-site and on-site generated wastes. The evaluation began with a review of applicable permits and operating procedures, and followed with interviews of process unit, environmental, and data entry/file staff. The type and content of in-process documentation was reviewed, and then compared or spot-checked against various facility databases.

As detailed below, the RCRA media inspection also included an assessment of laboratory practices for waste fingerprinting and post-treatment testing. NEIC further evaluated the facility's tracking, treatment and testing system by following distinct, pre-selected loads through the acceptance and treatment process, and collecting and analyzing samples of the treated waste loads. Photographs taken by NEIC personnel during the second inspection are presented in Appendix A.

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PROCESS DESCRIPTION

WASTE PRE-ACCEPTANCE AND LOAD ACCEPTANCE

Waste Pre-Acceptance Procedures

CWM-KHF has developed a waste pre-acceptance program to evaluate the acceptability of a generator's waste for treatment, storage, and/or disposal. Prior to acceptance, CWM-KHF must obtain all the information required by 40 CFR § 264.13(a)(1) and 22 CCR 66264.13(a)(1) to identify, treat, store or dispose of incoming waste. According to section 4.0 of the facility's Waste Analysis Plan (Revision 0, dated June 16, 2003) [Appendix B] contained in the CWM-KHF RCRA permit, the pre-acceptance program includes the following steps:

1. Waste information – CWM/KHF obtains sufficient information to make a decision regarding the management of a candidate waste stream
2. Initial review – CWM/KHF conducts review of information, including screening analysis to evaluate the waste material.
3. Disposal decision process – CWM-KHF documents the initial pre-acceptance procedure evaluation for the acceptance or rejection of a candidate waste stream.
4. Re-evaluation process – This process includes procedures for when the re-evaluation of a waste stream is conducted once it has been accepted.

Before a new waste stream is accepted, CWM-KHF obtains chemical and physical data (from generator knowledge or analytical testing) on a waste profile sheet completed by the generator. LDR notification/certification information and data are requested from the generator along with other supporting documentation, such as analytical results (if available), process generation information, Material Safety Data Sheet (MSDSs), and raw product ingredients.

The profile sheet and supporting information are reviewed for completeness, and general technical and billing-related accuracy by technical service representatives (TSRs), who are part of the CWM-KHF sales department. (At the time of the NEIC inspection, the TSRs reported to the sales manager for the Pacific Northwest region of CWM). As part of the review process, the TSRs create a file in the "AS400" database, and begin populating relevant fields for the waste under review. If analytical results are available, they are keyed into the AS400 system. The status of certain compounds with respect to reporting under the toxic release inventory (TRI) is also noted in the database.

The AS400 database system maintains waste profile information, including the approval and reapproval status of a waste profile. In addition, the testing history of wastestreams stabilized on-site is also documented in the database. CWM-KHF uses other databases to track the transportation, acceptance, and on-site and off-site movement of wastes (e.g., "ARev", a

hazardous waste tracking system, and a PCB tracking module that is linked to ARev). CWM-KHF retains all hardcopy waste profile application information for each generator/wastestream.

If the profile sheet is deemed to be acceptable, the TSRs forward a signed copy to the two "approval chemists" – Mr. Jim Sook and Ms. Cecilia Canoza – at CWM-KHF. According to Mr. Sook, CWM-KHF does not require analytical testing as part of its waste acceptance process, but "often times" an approval chemist will return a profile sheet to the TSR because of a poor waste characterization or absence of LDR underlying hazardous constituent (UHC) information.

Mr. Sook stated that the review of the profile information by the approval chemists proceeds from "RCRA wastes down", starting with a screening of potentially applicable RCRA listed waste codes (by assessing the waste generation process), through the RCRA characteristic codes, the California hazardous waste codes, and ending with non-hazardous waste as applicable. The review of LDR-related information includes an assessment of a waste's status with respect to meeting applicable treatment standards, and the accuracy and completeness of identified UHC list. According to Mr. Sook, CWM-KHF also requires generators to complete a RCRA Subpart CC and Clean Air Act Subpart DD VOHAP (40 CFR Part 63 volatile organic hazardous air pollutant) forms to certify the volatile organic compound (VOC) content of the candidate waste.

The approval chemists evaluate if the wastes are not prohibited from acceptance at CWM-KHF. For example, the facility does not accept compressed gases and regulated radioactive material. The approval chemists then evaluate how well the candidate waste will stabilize. Examples given by Mr. Sook include: the likelihood of an exothermic reaction; potential for reactions with reagents; compatibility with reagents and equipment; and the potential for gas generation (i.e., ammonia) which have worker safety implications. At the conclusion of the review, the approval chemists assign a CMW-KHF "process code" for the candidate waste stream [Table 1].

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Table 1
CWM-KHF PROCESS CODES
Chemical Waste Management - Kettleman Hills Facility
Kettleman City, California

PROCESS CODE	DEFINITION
01	Storage transfer
03	Drain and flush PCB
04	Drain PCB only
05	Flush PCB only
06	Storage only
07	Decant
01A	Storage transfer to Onyx-Azusa
01B	Storage transfer to Bethlehem App
01N	Storage transfer to Teris-El Dorado
01P	Storage transfer to Onyx-Port Arthur
01Q	Storage transfer to Onyx-Superior
01T	Storage transfer to Onyx-TWI
01Y	Storage transfer to Model City
1E	Solar evaporation
1EW	Storage transfer to Teris-Wilmington
1KB	Storage transfer to Kinsbursky Bros.
1UF	Storage transfer to US Filter
18C	B18 cover soil
3A	Landfill-acidic
3C	Landfill
3E	Landfill – California requires corroborative testing
3NH	Landfill-nonhazardous
3T	Landfill – TSCA (PCBs/friable asbestos)
36	SHIP- special handling
4E	Solidification/landfill – naturally meets CA LDRs
4N	Solidification/landfill
4NH	Solidification/landfill – nonhazardous
4R	Stabilization/landfill
B19	Landfill B19
CRT	Universal waste - CRT
MIC	Microencapsulation
MAC	Macroencapsulation
PG	Poisonous/ toxic materials DOT 2.3
PM	Poisonous/ toxic materials DOT 6.1
UED	Universal waste electronic device

After the approval chemist completes his/her review, the profile is routed back to the TSR via the AS400 system. The TSR assigns a unique tracking number for each approval. The number is sequential and generated within the AS400 system. Wastes profiles are required to be recertified for accuracy every 2 years, but are typically completed every year for off-site waste leaving CWM-KHF.

Wastes received by CWM-KHF include: "straight streams" from a single generator (the same waste, in bulk or container form), "milk runs" representing composites of multiple

generators' wastes combined in single or multiple containers, and wastes bulked at other RCRA treatment, storage, or disposal facilities.

Waste Load Acceptance

Incoming loads of RCRA and TSCA wastes have four potential on-site destinations at CWM-KHF: landfill B-18, the drum storage unit (DSU), the final stabilization unit (FSU)/bin storage unit (BSU), or the surface impoundments. The destination of a waste and associated processing procedure/paperwork are generally dependent on the following factors:

- The regulatory status of the waste:
  - RCRA wastes which meet LDR standards
  - RCRA wastes requiring treatment to meet LDR standards
  - TSCA wastes
  - Non-RCRA California hazardous wastes, which either meet or do not meet State treatment standards
  - Other California-regulated wastes
- The form of the waste: solid or liquid
- The transport container: drum, tote or small container, roll-off dumpster, tanker

In general, wastes that are directly landfilled do not require advanced scheduling. Advanced scheduling with the scheduler (April Barrigan) is required for wastes which will be processed through the FSU/BSU, or through the DSU. Typically, generators contact Ms. Barrigan within 1 to 3 days of the desired delivery date. Upon receiving a call from a generator, Ms. Barrigan will check the AS400 database to determine if the profile is current and if testing is required. The delivery will then be scheduled in a scheduling database maintained on a computer network share drive.

Upon arriving at the site, all waste loads pass through the security booth where the driver's name and company name are checked. Non-bulk loads then proceed to the scale and bulk loads proceed to the untarping rack. CMW-KHF operates a radiation meter to screen all incoming loads as they pass by the scale area. Bulk loads are visually inspected, and if required, sampled, before proceeding to the scale house.

According to section 5.0 of the facility's Waste Analysis Plan (WAP), the following wastes do not require sampling for fingerprinting:

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- Lab packs
- "Empty" containers (as defined by 40 CFR § 261.7 and 22 CCR 66261.7)
- Single substance contaminant
- Commercial products or chemicals
- Asbestos-containing waste
- Beryllium containing waste
- Articles, equipment, containers, debris, solids, or liquids contaminated with PCBs
- Wastes which are visually identifiable through an inspection process
- Waste produced from the demolition, dismantling, or renovation of industrial process equipment or facilities
- Waste from a remedial project in which the sampling and analysis plan was approved by a federal or state agency
- CWM/Waste Management site-generated waste, unless it is otherwise required
- Debris as defined in 40 CFR § 268.2 or 22 CCR 66268.2. These materials will be visually inspected after receipt but before shipment acceptance
- Controlled substances regulated by the federal government including illegal drugs and/or materials from clandestine labs
- Materials designated for storage and subsequent trans-shipment off-site
- Contaminated personal protective equipment (PPE)

The WAP also specifies that CWM-KHF may waive the sampling and analysis requirements when the pre-acceptance information is sufficient to ensure compliance with permit conditions and operational constraints of the treatment process, and any one of the following conditions exist:

- Obtaining a sample poses an unnecessary hazard of acute or chronic exposure of CWM/Waste Management employees to carcinogenic, mutagenic, neoplastigenic, teratogenic, or sensitizing materials; or
- The material may react violently with air or moisture; or
- The material's odor poses a public nuisance when sampled; or
- A sample cannot be reasonably obtained, such as filter cartridges, large pieces of contaminated material, or contaminated debris.

In addition, the WAP assigns WAP sample exception designations for wastes identified in Table 2. NEIC observed one of these designations written on records (typically the "grid sheet") reviewed during the inspection.

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Table 2
WASTE ANALYSIS PLAN SAMPLE EXCEPTION CODES
Chemical Waste Management - Kettleman Hills Facility
Kettleman City, California

CODE	MATERIAL DESCRIPTION
WAP #1	Lab Packs
WAP #2	Empty containers
WAP #3	Asbestos containing waste
WAP #4	Beryllium containing waste
WAP #5	PCB contaminated waste
WAP #6	Non-infectious waste
WAP #7	Chemical containing equipment removed from service
WAP #8	RCRA debris
WAP #9	Non-RCRA, Cal-Haz, Non-Haz
WAP #10	Material designated for storage or off site shipping

After bulk solid loads are untarped at the untarping rack, the drivers proceed to the sampling rack and hand the manifest to the sampler. According to Dan Larkin, a chemist who also serves as a sampler, the samplers "just know" what loads to sample by reviewing the manifest for the state codes 571 and 591, D002 to D011 RCRA wastes, and other non-debris RCRA wastes. In general, sampling for "fingerprint" testing is performed on all bulk liquid loads, and on all bulk RCRA waste, including wastes meeting LDR treatment standards (e.g., solids directly landfilled or liquids discharged to surface impoundments) and not meeting LDR treatment standards (e.g., solids requiring stabilization). Mr. Larkin also stated that the samplers (such as Carlos Sanchez, who was on vacation at the time of the NEIC inspection), keep a list of profiles due for recipe development/annual certification.

A 4-ounce sample is collected by the sampler from the front, middle, and back of bulk solid loads for fingerprint testing. A 32-ounce sample is collected from stabilization loads that require a recipe recertification/development as identified by the receiving technician's review of the profile in AS400. For a tandem trailer, a single sample may be collected from both trailers if the same waste (i.e., profile) is contained in both. Two samples are collected if a different waste is contained in each trailer.

CWM-KHF personnel stated that although the WAP specifies that bulk loads of the same profile are fingerprinted at a frequency of 1 per 10 loads received [Attachment B, Section 5.1], the frequency is more commonly 1 per every 5 loads received. In addition, for the first deliveries of a new profile, or on the first weekday a particular load is received, the frequency may be increased to every load, according to CWM-KHF personnel.

Hazardous debris is visually inspected, but not sampled. According to CWM-CHF personnel, the sampler checks hazardous debris (destined for micro- or macro-encapsulation) to

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ensure that the particle size is greater than 60 mm, and that at least 50 percent of the material is debris. Bulk liquid loads (destined for the surface impoundments) are sampled with a column-type sampler. The samples are placed into an 8-ounce sample container.

For all types of loads, the driver's paperwork (i.e., manifest) is taken by the scale clerk and sent (along with a sample if collected) through a tube system to the receiving technicians. The loads are weighed, and the scale clerk keys in basic load information into the AS400 database.

The receiving technicians, located in the lab building adjacent to the scales, review the incoming paperwork and perform fingerprint testing on the sample (if collected). After receiving the manifest for a load, the receiving technicians access the waste profile from the AS400 database to verify the approval status and determine specific testing requirements of the profile, and also review the manifest for any discrepancies. Once the receiving technicians complete the fingerprint tests, the results are compared against the descriptions/standards in the profile. Any manifest or profile discrepancies (and the resolutions) are noted in the "F22" comment field of the AS400 database.

In general, internal tracking documentation is generated for different wastestreams/facility destinations as follows:

- Direct landfill (RCRA and California hazardous waste meeting LDR standards, and bulk TSCA solids and remediation waste): a grid sheet
- FSU/BSU micro- and macroencapsulation (hazardous debris), and stabilization (RCRA and California waste not meeting LDR standards): a grid sheet, and a waste treatment and disposal form (WTDF)
- FSU/BSU solidification (certain RCRA liquids): grid sheet and a WTDF
- Surface impoundments (RCRA liquids meeting LDR): grid sheet
- Drums/containers (including PCBs items): drum inventory sheet (printed at the DSU from the computer system network), a drum analysis record (DAR) [for destinations other than direct landfill], a WTDF, and grid sheet
- On-site generated waste: a waste transfer log and other records depending upon the destination

Once a load is approved for acceptance, the receiving technician stamps the internal paperwork with the process code. Stamps observed by NEIC during the inspection were "landfill," "ponding," "stabilization," "TSCA," "wet-load," "micro," "macro," and "BSU". For all loads except those destined for the DSU, the receiving technician signs the manifest, removes the top sheet, and hands the bottom sheets to the driver.

Direct landfill loads proceed directly to the landfill. The driver hands the grid sheet to the "gridder". The gridder signs the grid sheet, and records the date and time, and circles the grid

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point and elevation of the landfill area where the load will be dumped. Similarly, liquid loads for the impoundments are taken to the impoundments and typically off-loaded by the drivers. Stabilization and solidification loads (for treatment at the FSU) are left by the drivers at the BSU (BSU 1 or 2, depending upon the regulatory status of the material). Bulk-load trucks then "scale out" at the scales after dumping their loads.

Loads of drums, totes, and other containerized wastes, including PCB items destined for the PCB storage unit, are initially processed at the DSU. DSU personnel verify the quantity and profile of containers/drums with the manifest and the drum inventory sheet generated by the receiving technicians. The truck then returns to the receiving area where the driver delivers the drum inventory sheet to the receiving technician or receiving scale clerk. If no discrepancies are identified, the receiving technician signs the manifest and provides a copy to the driver.

The same general procedure is followed for PCB wastes, except that they are not off-loaded into the DSU. A second trailer receives the PCB wastes, and is used to transfer the wastes to the PCB storage unit where the items are off-loaded for storage/processing.

RECORDS AND DATA ENTRY

NEIC discussed the facility's waste tracking and file maintenance procedures with Ms. Barbara Mecchi, the Waste Tracking Clerk, Ms. Tracy Reddick, the PCB Clerk, and Ms. Jovita Vincent, the Records Clerk. Internal process and external shipping documentation ultimately is received by Ms. Mecchi. Ms. Mecchi is responsible for data entry into the facility's waste tracking system (ARev). She is assisted by Ms. Reddick, who performs quality control checks on the tracking information entered into the ARev system. The ARev system has fields for information regarding the transportation (e.g., manifest number, line item, date received, etc.) and internal processing information [e.g., processing codes, storage location (if applicable), disposal date, etc.]. For a particular waste load (including on-site generated wastes), the database is updated as the material works its way through the processing system.

Once Ms. Mecchi has entered the intial receiving information, a report of populated fields for wastes on a particular day will be printed out from the ARev database and reviewed by Ms. Reddick. Ms. Reddick compares the database information on the print out to the information in the original hardcopy documentation.

Weekly and monthly process summaries are also created from the database. These summaries are then sent to respective process units for verification and reconciliation with the physical items in process or storage. NEIC requested a monthly summary for the DSU to spot-check items observed in the DSU and the PCB storage unit.

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Once the data entry is complete and checked for accuracy, the hard copy documentation is given to Ms. Vincent. The hardcopy documentation is filed in "daily jackets", which are organized by the general type of activity for a particular waste (e.g., date of receipt; date of "volume processing", etc.) Because receipt, processing, and final disposal may extend over many days, a complete document packet for a particular waste load would have to be assembled from the daily jackets from at least 2 separate days.

NEIC requested examples of complete document packets from the daily jackets. The following are a subset of the packets received from CWM-KHF:

- Direct landfill of RCRA hazardous waste [Appendix C]
- A hazardous waste bulk solid load stabilized at the FSU, with post-treatment verification testing [Appendix D]
- A non-RCRA state hazardous waste liquid stabilized/solidified at the FSU [Appendix E]
- Direct landfill of drums, processed through the DSU [Appendix F]
- Hazardous waste debris macro-encapsulated at the FSU [Appendix G]
- On-site generated waste (landfill B-19 leachate) sent to the ponds [Appendix H]
- Non-hazardous waste sent to the ponds [Appendix I]

FACILITY PROCESSES

Environmental Monitoring

The CWM-KHF has historically monitored groundwater and ambient air conditions at the site. CWM-KHF personnel described the following three different groundwater monitoring well systems currently in operation at the site: a detection system, comprised of wells which have never detected contamination, and are primarily associated with regulated units; a corrective action system, installed around former solid waste management units and also used to monitor past pump-and-treat systems; and an evaluation well system, comprised of four recently-installed wells.

According to facility personnel, the California Water Board and DTSC have approved CWM-KHF's proposal to monitor all wells on a semiannual basis, and to redesignate the evaluation wells as corrective action wells. A complete constituent-of-concern list will be monitored for every 4.5 years in the corrective action and detection wells. As described in the first NEIC report for this investigation, the TSCA program has allowed CWM-KHF to follow RCRA groundwater monitoring, sampling, and analysis protocols.

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Historically, the facility has monitored air quality conditions at five locations: an upwind station; a downwind station to the east; an upwind station between the site and Kettleman City, a station at Kettleman City; and a station at Avenal. A sixth station was roving, or non-stationary. As a result of historical monitoring and an air study in 1994, the facility concluded that there was "nothing to monitor at the fence line", according to Mr. Turek. During the permit application review and subsequent RCRA permit issuance in 2003, CWM-KHF proposed to revise the monitoring program to monitor at three locations: at the former upwind and downwind stations, and at the tip of landfill B-18. At the time of the NEIC inspection in 2005, CWM-KHF and DTSC were continuing negotiations about the proposal.

Treatment, Storage, Disposal Activities

The facility fence lines enclose approximately 1600 acres of land, of which approximately 499 acres are dedicated to active operations. The facility operates one hazardous/TSCA waste landfill (B-18), three surface impoundments, a drum storage unit, a PCB storage unit, two bin storage units (BS-1 and BS-2), and a final stabilization unit. The drum decant unit was scheduled to be closed. The facility also operates three underground storage tanks to store fuel – diesel in two tanks, gasoline in one tank – for site vehicles. The facility receives water for dust suppression from a private well in Kettleman City, and potable water from a well in Avenal. The well is shared with a rancher, but part of a city-owned system.

A brief description of each of the major units and associated processing/disposal activities is presented below. Additional compliance-related details for the process units and operations are contained in the media sections of this report.

Landfill

At the time of the inspection, landfill B-18 was receiving the regulated wastes evaluated by NEIC. According to CWM-KHF personnel, landfill B-18 received approximately 1,000,000 tons of waste in 2004, most of which was non-hazardous waste and remediation soils. Of this total, approximately 70,000 to 80,000 tons were RCRA-regulated wastes, and 10,000 tons were TSCA-regulated PCB wastes. Facility personnel stated that landfill B-18 had received approximately 700,000 tons of waste to date in 2005. The decrease was due to the completion of a large soil remediation project on the coast.

The following wastes (CRWQB designations) are accepted for disposal in landfill B-18:

- Class I RCRA/TSCA wastes
- Class II California non-hazardous soils and non-soils

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- Class III NNISW (non-hazardous non-putresible industrial solid waste), such as oil-related wastes

According to facility personnel, "CERCLA-approved wastes" and putresible hazardous waste garbage are placed into landfill B-18. "Regular" (non-hazardous) putresible garbage may not, however, be disposed of in this unit.

The direct landfilled RCRA and TSCA loads may be in bulk form or in containers. Landfill B-18 also receives stabilized waste and solidified wastes from the FSU. During the NEIC inspection, CWM-KHF described various operational procedures for addressing driver and worker safety, minimizing potential waste compatibility reactions, and applying daily cover. NEIC also observed the placement of debris-appearing material and drums in different working areas of the landfill.

Landfill B-18 is constructed with three risers for withdrawing liquids from within (primary and secondary leachate collection systems) and below (vadose) the landfill unit. The liquids from each riser are three risers pumped to a common RCRA less-than-90-day storage tank. As detailed below, each landfill cell has a single dedicated leachate storage tank (less-than-90-day) for liquids from all the riser systems for that unit.

Landfill B-16, which was previously a TSCA-only landfill, was closed in 2004, and last received TSCA waste in 1986. Facility personnel stated that in the 1990s, CWM-KHF could not locate adequate volumes of TSCA waste to reach the desired final grade lines of the landfill for closure. The facility petitioned the county and the California Water Board, and received approval to accept Class III NNISW (non-hazardous, non-putresible, industrial, solid wastes).

CWM-KHF is currently applying for a permit for a new municipal waste landfill (B-17) to accept Class II and III/RCRA subtitle D wastes. Facility personnel also stated that plans are underway for expanding existing landfill B-18 and for constructing a new landfill (B-20) to replace B-18 once it is closed. According to facility personnel, a coordinated approval for these plans is being sought.

Surface Impoundments

According to the hazardous waste permit, the surface impoundments ("ponds" P-9, P-14, and P-16) may accept hazardous and non-hazardous liquids (excluding TSCA wastes) containing less than 100 ppm volatile organic compounds (VOCs). The units provide solar evaporation treatment of low solid, low organic content, aqueous wastes. Among other limitations on the wastes placed in the ponds, the state RCRA permit imposes a limit of 1,000 ppm total halogenated organics, a total organic carbon concentration of 10,000 ppm, and oil and grease

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concentration of 20,000 ppm. Hazardous waste liquids must also meet LDR treatment standards in order to be placed in the ponds. CWM-KHF personnel stated that the majority of the liquid placed into the ponds is on-site generated leachate.

According to CWM-KHF personnel, incoming loads (either bulk shipments or contents of drums removed at the DSU by vacuum truck) to the ponds are fingerprinted and also subject to a compatibility test with the pond liquid. For the compatibility test, waste liquids are mixed with liquid from the destination pond, and monitored for a reaction. Loads of off-site liquids are typically off-loaded by drivers after the approval is given by the receiving technicians.

All three units are constructed with a double liner and leachate collection and recovery system/leachate detection system. CWM-KHF personnel stated that at present, only pond P-16 was operational and was receiving approximately 15,000 gallons a day of waste. At the time of the NEIC inspection, the off-loading area for pond P-14 was undergoing epoxy coating, and facility personnel stated that the run-off/spill collection trench for P-16 was in need of repair. According to facility personnel, the off-loading area for pond P-9 was in need of an epoxy coating, according to facility personnel. Pond P-15 is currently used to store fresh water for site-wide dust suppression.

Drum Storage Unit

Except for direct landfill drums, all incoming non-bulk loads (e.g., drums, totes, PCB items) are processed through the DSU. The DSU is an open-air, covered, storage area with nine bays. The base of the unit consists of a concrete pad underlain by an HDPE liner. The pad is equipped with an HDPE-lined sump.

Drums received at the DSU may go to any number of final destinations:

- Liquids removed and discharged into ponds
- Liquids solidified in FSU
- PCB storage unit
- Composites of solids created of similar profiles and stabilized at FSU
- Off-site to a third party

Except for PCB items, incoming containers are initially placed into two dedicated unloading bays. If an individual load agrees with the information on the manifest and the drum inventory sheet, the receiving technician is notified by a DSU technician. The receiving technician signs the manifest, the driver is released, and processing of the drums begins. Barcode labels are printed out at the DSU (for every drum) and applied to the drum. The barcode number for each drum (or PCB item) is composed of the manifest number and a

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sequential item number. The applicable process code (assigned by the receiving technician) and date received are marked on the top of each drum.

During the NEIC inspection, NEIC observed the processing of drums in the DSU. NEIC observed bar code labels and lid markings, and facility personnel identified the function of each bay as follows:

- A bay: discrepant drums, denoted with orange tag attached to drum
- B bay: staging for FSU; "4N" observed by NEIC on lids
- C bay: repacks/composites; "4R" observed by NEIC on lids
- D and E bays: off-loading staging, discrepant drums, and repacks
- F bay: off-site; "01N," "01A," "01T" observed by NEIC on lids
- G bay: off-site waste, universal wastes; drums of leachate from B-19 phase II leachate going to U.S. Filter, according to facility personnel
- H bay: corrosives
- O and N bays: off-site; "01N" observed by NEIC on lids

Materials to be transferred off-site without treatment or processing are not sampled or analyzed, but the unopened containers are visually inspected for integrity.

For drums destined for an on-site process, DSU technicians open every drum and perform a visual inspection. Drums of solids requiring solidification are sampled for fingerprinting and stabilization evaluation testing (SET). For solids scheduled for stabilization, the SET procedure evaluates the compatibility of the drum contents with treatment reagents and with other drums which may be combined during treatment. Drums are sampled in groups of 10 per the same profile as follows: for every 10 drums of the same profile, a composite sample is created by taking an aliquot from each drum. Samples are also collected for liquid drums destined for the ponds.

Samples are then sent to the laboratory where the receiving technician performs fingerprinting testing. A DAR is created for each group of drums sharing the same profile. The DAR sent to the DSU from the receiving technician reports the fingerprint tests (where applicable), and specifies the process code. The DAR is also used to record certain activities (such as draining, flushing, etc.) on PCB items.

The processing of drums of solids requiring stabilization, or liquids requiring solidification, includes grouping similar, compatible profiles for combined treatment at the FSU. As drums are received by the DSU, the receiving technicians maintain a running inventory of

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compatible drums (comprising several profiles) which will eventually be treated together at the FSU. Receiving technicians create the following composite groupings:

- Solidification – liquids (25 drums maximum)
  - Non-hazardous wastes
  - Non-RCRA wastes
  - D002 wastes with no underlying hazardous constituents

- Stabilization – solids (40 drums maximum)
  - D004 to D011 wastes
  - F006 to F009, F011, F012, F019 wastes requiring LDR treatment for metals, but cyanide meets LDR standard
  - F006 to F009, F011, F012, F019 wastes requiring LDR treatment for metals and cyanide
  - Non-RCRA hazardous state of California codes 571 and 591 [fly ash, bottom ash, baghouse dust subject to state treatment LDR codes by soluble limit threshold concentration (STLC) testing]

These same general categories are used for bulk wastes. Facility personnel stated that drums of F-listed wastes with UHC organics below the UTS levels may be combined drums of D004 to D011 wastes in the same composite group.

Once a receiving technician has created a composite group, a SET is performed on samples from all the individual contributing drums to determine if the wastes are compatible with each other and with the reagents (notably the cement kiln dust). If the SET results indicate that the wastes are compatible, a unique composite number is generated and transmitted to the DSU via a Drum Compositing Data Sheet. This form identifies all the drums (by manifest and item number – the barcode number) comprising a composite group. Appendix J contains paperwork associated with a composite group that was being assembled during the NEIC inspection.

The DSU then assigns a "repack number" which is composed of the applicable treatment code ("4R" for example, for stabilization), followed by a sequentially-generated number. The repack number, logged by the DSU, and keyed back to the individual bar codes for each drum, then becomes the tracking number for each composite grouping. The repack number is marked on the lids of the composite group drums.

The DSU is authorized to release drums once it receives a signed DAR and a WTDF from the receiving technicians. For stabilization or solidification repacks (i.e., composite groups), the drums are transferred to the FSU, emptied, mixed, sampled, and placed into a bin. The bin is stored at BSU 2 (for untreated waste) while a recipe is developed by the laboratory. In contrast to bulk loads, a recipe is developed for every composite group undergoing stabilization, including "straight streams" (i.e., a composite group of drums all with the same profile.)

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Once the recipe is developed, the waste is returned to the FSU and stabilized, and then tested to ensure compliance with the LDR treatment standards (namely metal UTSs and cyanide) associated with the individual drums comprising the composite group. The stabilized waste is placed into a bin which is stored in BSU 1 (for treated waste) while the testing is being performed. Successfully stabilized wastes are then authorized for disposal at the landfill via a signed WTDF from the laboratory. The load is released to the landfill once the FSU signs the WTDF.

A similar process is in place for composite groups of liquids undergoing solidification. For liquids going to the pond, after the signed DAR is returned and the wastes are released, the drums' contents are removed by a vacuum truck. The vacuum truck then discharges the liquids into the designated pond.

According to CMW personnel, wastes destined for off-site disposal are moved by a manifest and a waste transfer log. An off-site shipment to a particular TSDF is initiated once enough waste is accumulated (e.g., for transportation efficiency purposes).

PCB Storage Unit

Incoming containerized (e.g., non-bulk loads) PCB items must first pass through the DSU prior to storage or processing at the PCB storage unit. Items are counted and the manifest/drum inventory sheet is reviewed to verify the unit count and the accuracy of the transportation documentation. Items are transferred directly from the transport trailer into a second trailer for transfer to the adjacent PCB storage unit. No sampling is performed on TSCA PCB waste.

The PCB storage unit consists of a storage area, a 10,000-gallon PCB storage tank, a 1,000-gallon exterior diesel fuel tank (for flushing) and several portable steel drain trays. Smaller items are drained and flushed (as applicable) inside the building; larger items requiring draining and/or flushing are processed outside. During these operations, CWM-KHF stated that the drain trays are lined with plastic sheeting and absorbent material. PCB storage unit personnel record the processing activities on a DAR, and on the PCB Processing Log. The volumes of liquids placed into the PCB storage tank are also recorded.

Liquid and semi-solid wastes removed from the items are pumped into the PCB storage tank prior to off-site shipment for incineration in Port Arthur, Texas. Drained (and/or flushed, as applicable) items and solids are placed into the landfill. A grid sheet accompanies the movement of the wastes from the PCB storage unit to the landfill.

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Final Stabilization Unit and the Bulk Storage Units

Overview

The FSU and the BSUs are bulk waste processing operations. Specifically, the following treatment activities are conducted at these units:

- Bin top solidification
- Hazardous debris treatment by micro- and macro-encapsulation
- Solidification of liquids
- Stabilization of solid wastes

The FSU processes bulk (including "composite" drum groups from the DSU) solid, semi-solid, and liquid wastes by mixing with stabilization agents. The FSU is an enclosed steel-framed building containing four 20,000-gallon (approximately 80-yard) steel waste mixing tanks (FSU 1, 2, 3, and 4), exterior reagent storage tanks, and a control room for monitoring FSU operations and air contaminant levels, and controlling reagent additions. A track-hoe excavator operates inside the FSU for mixing the wastes with reagents. According to facility personnel, air emissions from the FSU are controlled by a baghouse system. A 20-yard roll-off dumpster is used to contain the particulates captured by the baghouse.

The FSU may use the following reagents for treatment:

- Type II or "soil cement" (e.g., cement which does not meet construction specifications)
- Portland cement
- Cement kiln dust (CKD)
- Ferrous sulfide
- Sodium hypochlorite
- Water

Two outdoor BSUs are operated next to the FSU:

- Bulk storage unit 1 (BSU 1): for storing treated wastes, and for the construction of macroencapsulation boxes prior to lid attachment; consists of a lined asphalt pad with a liquid collection system; storage capacity of approximately 70 twenty-yard roll-off dumpsters or bins

- Bulk storage unit 2 (BSU 2): for storing untreated wastes (originating onsite and offsite) awaiting recipe development; treated waste may also be stored here; consists of a double lined asphalt pad with two liquid collection systems; storage capacity of approximately 70 twenty-yard roll-off dumpsters or bins

Bin Top Solidification

Non-hazardous bulk wastes containing minimal amounts of free liquids are treated in-situ (i.e., in its transport container) by adding absorbent. Wastes treated by bin top solidification are subjected to fingerprint analysis and a SET to ensure compatibility with the absorbent. After treatment, the waste is tested for free liquids using the paint filter liquid test. The solidified load is then transported from the FSU/BSU to the landfill for disposal. A WTDF and grid sheet accompany the load.

Micro- and Macro-encapsulation

CWM-KHF treats hazardous debris, as defined in 40 CFR § 268.2, Definitions, and 22 CCR 66268.2 to meet the technology standards specified in 40 CFR § 268.45, treatment standards for hazardous debris, and 22 CCR 66268.45. Sampling and analysis of hazardous debris is not performed on the incoming waste load. Instead, a visual inspection is performed to verify that the selected treatment method is appropriate for the hazardous debris being accepted. Post-treatment analysis consists of a visual inspection of the treated hazardous debris.

For micro-encapsulation, hazardous debris is mixed with cement in the FSU. Post-treatment inspection is performed to verify that the surfaces are coated. The treated debris is placed into a quarry truck and transported to the landfill for disposal. A WTDF and a grid sheet accompany the load.

For macro-encapsulation, a HDPE liner is placed inside a 20-yard steel roll-off dumpster. The hazardous debris is placed inside the liner. CWM-KHF uses one of three methods to secure the HDPE lid to the liner:

- Heat extrusion
- Fasten the lid with screws and then heat extrude
- Glue the lid

The roll-off box is then transported to the landfill where the sealed HDPE box is removed and disposed. A WTDF and a grid sheet accompany the load.

Solidification

Solidification is performed on the following three groups of liquid bulk and composite drum groups at the FSU:

- Non-hazardous wastes
- Non-RCRA wastes
- D002 wastes with no underlying hazardous constituents

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The liquid wastes are placed in the FSU, and CKD is added until no free liquids remain. The solids are removed from the FSU mixing unit, placed into a quarry truck or bin, and taken to the landfill. LDR testing is not required because all hazardous wastes liquids processed at the FSU do not carry UHCs. Incoming loads are fingerprint tested and subject to a SET at a frequency of 1 per every 10 loads of the same profile. The SET for solidification loads evaluates the compatibility of the waste with the solidification agent (usually CKD).

Stabilization

The following four groups of wastes (bulk and drum composites) are stabilized at the FSU:

- D004 to D011 wastes
- F006 to F009, F011, F012, F019 wastes requiring LDR treatment for metals, but cyanide meets LDR standard
- F006 to F009, F011, F012, F019 wastes requiring LDR treatment for metals and cyanide
- Non-RCRA hazardous state of California codes 571 and 591 (fly ash, bottom ash, baghouse dust subject to state LDR codes by STLC testing)

Incoming loads are sampled at the same frequency for fingerprinting and SET testing as for the solidification loads. Once a load reaches a FSU tank, reagents are added to the waste according to a recipe that is developed during the pre-acceptance process or as part of the facility's Stabilization Treatment Evaluation (STE) testing program. The STE testing program is a recipe recertification and post-treatment verification system developed by CWM-KHF for demonstrating compliance with applicable RCRA LDR treatment standards. The STE protocol subjects each stabilization waste profile to testing based on past verification testing results and a regular recertification schedule. The program is not specifically addressed in the facility's WAP, and specifies limited (i.e., not every stabilized load is tested) post-treatment LDR compliance testing. Specifically, the WAP states that,

> "A post-treatment analysis program is conducted to assure that the process continues to be effective in meeting the treatment standards. The recipe (the mix ratio) developed as described above is followed whenever treating subsequent shipments of the same waste stream (as defined by waste profile). A sample of each KHF stabilized waste stream is tested during the re-evaluation period to verify, by meeting all applicable Land Disposal Restriction Treatment Standards, that the recipe used continues to be appropriate..." [WAP, page 24, Appendix B]

The STE program is described in a CWM-KHF Standard Division Practice, which is an internal standard operating procedure for the facility [Appendix K].

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The STE status of an incoming stabilization waste is checked by the receiving technician as part of the load acceptance process. Facility personnel also stated that the samplers maintain a list of all profiles which are due for STE testing. At the sampling rack, an STE sample is taken from a load for which the profile on AS400 (and/or the samplers own notes) indicates that a recipe recertification/post-treatment testing verification is required.

The STE program begins with an initial recipe development at the pre-acceptance phase, in which a reagents/waste mix ratio (i.e., recipe) is developed through bench scale analysis in the CWM-KHF laboratory. Ingredients listed above (e.g, Type II cement, Portland cement, etc.) are used to meet the specific LDR treatment standards for the subject profiled waste. Once a recipe has been developed, it is used to treat all subsequent shipments of that waste unless that recipe is determined to be invalid based on the results of post-treament testing. When a recipe passes, the information is documented in the CWM-KHF laboratory's Excel database and in the AS400 "F22" comment field. For a particular load, a copy of the analytical results is attached to the WTDF which is given to the FSU.

Upon initial receipt of a waste stream (i.e. the first load received for each profile) the load is stabilized, sampled, stored, and analyzed by the Toxicity Characteristic Leaching Procedure (TCLP) or the STLC, as applicable to the particular waste profile. After the first pass (i.e., testing results for the load do not exceed applicable treatment standards), two subsequent loads received are treated (and tested) using the same recipe. Once three consecutive loads pass, the profile is placed on an annual testing program. The first three passes do not have to occur on the first three loads received. At a minimum, an STE is performed on 1 in 5 loads until three passes have been obtained. The three consecutive passes must occur within 18 months from the date of the first pass.

Under the annual testing program, one waste load per year is tested for post-treatment compliance with LDR treatment standards. The profile remains in the annual testing program unless a waste load fails. If a waste load fails during the annual test, the failure is noted in the AS400 F22 comment field and a remix recipe is developed for the waste profile. The laboratory then completes a new WTDF showing the new recipe. This form is then given to the FSU for re-treatment of the affected waste load. As in the initial acceptance phase, three consecutive passes are then required before the profile reverts back to the annual testing program. The information concerning the recipe development and testing is summarized in the "F22" comment field in the AS400 database.

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RCRA COMPLIANCE EVALUATION

During the course of the eight-day on-site inspection, NEIC RCRA investigators lead by Jacquelyn Vega and Don Smith examined RCRA-related records primarily pertaining to waste handling and processing. The evaluation included a review of waste management practices for on-site generated wastes.

ON-SITE GENERATED HAZARDOUS WASTES

The largest volume of hazardous waste generated on-site is leachate from the landfills and surface impoundments. Other wastestreams typically generated include: pond skimmings, groundwater monitoring well purge water, FSU baghouse dust, personnel protective equipment, and maintenance wastes.

Leachate Management

CWM-KHF has determined the leachate from the following landfill phases and surface impoundments to meet the definition of RCRA Hazardous Waste Number F039, which is the listing for multi-source leachate:

- B-18 landfill phase 1A
- B-18 landfill phase 1B
- B-18 landfill phase 2A
- B-18 landfill phase 2B
- B-19 landfill phase 1B
- B-19 landfill phase 2
- B-19 landfill phase 3
- P-09 surface impoundment
- P-14 surface impoundment
- P-16 surface impoundment

CWM-KHF has designated the leachate from landfill B-19 phase 1A to be non-hazardous Class II/III municipal waste. The waste profile (profile No. BZ9489) for the B-19 phase 1A leachate is included in Appendix L. According to CWM-KHF, this leachate was reclassified from hazardous to nonhazardous in 1997. Landfill B-19 was built in 1986 and phase 1 received hazardous waste. In March 1988, slippage occurred in the landfill and the waste mass moved. During the slippage of the waste mass, the liner tore between the primary, secondary, and vadose zones and the zones became combined (B191AC). Between 1988 and 1997, CWM-KHF moved the hazardous waste from the slippage area (phase 1A) to other areas of landfill B-19, designated as phases 1B, 2, and 3. Phases 1B, 2, and 3 were then RCRA-closed and the waste was capped in place. Phase 1A was rebuilt in 1997, and this area now receives class 2 and 3 municipal

waste. According to Mr. Turek, Environmental Manager at CWM-KHF, any leachate from the hazardous waste area would be under the cap, and any leachate from the municipal waste would flow over the capped area to the phase 1A area, which is the reasoning for the reclassification of the leachate.

Leachate from the on-site permitted landfills and surface impoundments collect in risers at each unit. Each of the landfill leachate collection areas contains three risers, and each of the surface impoundments contains one riser. Leachate from the risers is pumped into an open-topped tank located at the collection point at the unit. For the landfill phases and surface impoundments where the leachate has been classified as F039, these tanks are managed as less-than-90-day collection tanks. CWM-KHF samples the leachate from the tanks when the tanks are ready to be emptied. The analytical results from the tank sampling are used to determine whether the leachate meets the LDR treatment standards for F039. If the leachate is determined to meet the LDR treatment standards, it is disposed of in one of the on-site permitted surface impoundments. If the leachate does not meet the LDR treatment standards, it is shipped off-site for incineration.

At the time of the NEIC insepection, two of the leachate streams were being shipped offsite for incineration. Landfill B-19 phase 2 leachate has been shipped offsite for incineration since August 14, 2003, when the tank sample showed 0.063 mg/L tetrachloroethylene (treatment standard is 0.056 mg/L). Surface impoundment P-16 leachate has been shipped off-site for incineration since 1995. According to Mr. Turek, CWM-KHF, the P-16 leachate did not meet some of the treatment standards for organics at that time, but does meet the treatment standards currently. They continue to send the P-16 leachate for incineration to be conservative. (Although, analytical data from the riser for P-16 continues to exceed the treatment standards for 1,1-dichloroethane, chloroform, tetrachloroethylene, and trichloroethylene.)

CWM-KHF failed to determine if the multi-source leachate (F039) from their landfills and surface impoundments meets the treatment standards at the point of generation [**Area of Noncompliance (AON) 1**]. Determination of whether a hazardous waste meets treatment standards is required to be made at the point of generation of the waste. As stated in the November 7, 1986 Federal Register [51 FR 40620], "The agency is requiring that applicable Part 268, Subpart D treatment standards for a restricted waste be determined at the point of generation." For leachate that is generated in a landfill, the point of generation is when the leachate is pumped out of the riser and begins to be "actively managed." The leachate collection sumps which are an integral part of the liner, are not subject to regulation, as addressed in the January 29, 1992 Federal Register [57 FR 3471]. However, only the collection sump or riser within the landfill liner is excluded from regulation, and once the leachate is "actively managed" by pumping it out of the riser, the leachate then becomes regulated and subject to the treatment standards. Futhermore, the leachate is then stored in open-topped tanks until the tanks are ready

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to be emptied either because of exceeding the maximum volume or getting near the 90-day accumulation time requirement. CWM-KHF does not sample the leachate in the tanks until they are ready to be emptied. Most of the constituents of concern for the leachate are organics, which would evaporate in an open-topped tank.

CWM-KHF has conducted impermissible dilution as a substitute for adequate treatment of their leachate **[AON 2]**. Wastes cannot be aggregated to meet the treatment standards prior to disposal if the aggregation is done to (1) merely dilute the hazardous constituents into a larger volume of waste to lower the constituent concentration, or (2) release excessive amounts of hazardous constituents to the air [January 26, 1999 letter from Elizabeth Cotworth, OSW, to New York State Department of Environmental Conservation, Appendix M]. Additionally, analytical records maintained by CWM-KHF showed that F039 leachate wastes that did not meet the treatment standards at the time of generation, were impermissibly diluted prior to discharge to on-site surface impoundments.

Annually, CWM-KHF is required by the California Water Pollution Control Boad to analyze leachate collected in each of the landfill and surface impoundment risers. CWM-KHF employees which are part of the environmental group conduct daily readings of the liquid level of each riser. When the liquid level in the risers meets an action level and is going to be pumped into the tank, a sampling database is checked to see if the annual sampling is due. Rob Fadden, Sampling Technician for CWM-KHF, collects most samples for the environmental group. Each riser (primary, secondary, vadose for the landfills) is pumped separately into the tank. The riser line is first purged into the tank, and then a sample is collected from a sample port on the riser line before it enters the tank. Instances where the analytical results for the liquid from the risers exceeded treatment standards for F039, and the leachate was subsequently discharged into an on-site surface impoundment is summarized in Table 3.

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Table 3

LEACHATE TREATMENT STANDARD EXCEEDANCES DISCHARGED TO SURFACE IMPOUNDMENTS
Chemical Waste Management - Kettleman Hills Facility
Kettleman City, California

Riser Number	Date Sampled Pumped to Tank	Analytical Result (mg/L)	Treatment Standard (mg/L)	Ultimate Disposition
P14 (riser for pond P-14)	3/20/2001	Chloroform 0.100 Trichloroethylene 0.059	Chloroform 0.046 Trichloroethylene 0.054	*
	6/20/2001	Chloroform 0.086	Chloroform 0.046	Into pond P-14 on 3/04/02
	12/16/2002	Chloroform 0.092	Chloroform 0.046	Into pond P-9 on 3/01/03
	12/09/2003	Chloroform 0.082	Chloroform 0.046	Into pond P-14 on 12/23/03
	7/29/2004	Chloroform 0.092	Chloroform 0.046	Into pond P-9 on 9/08/04
B192P (primary riser in B-19 phase 2)	9/25/2001	Tetrachloroethylene 0.170	Tetrachloroethylene 0.056	*
B192S	9/24/2001	Tetrachloroethylene 0.065	Tetrachloroethylene 0.056	*

* *NEIC does not have ponding documentation for 2001 and earlier.*

Additionally, during Phase 1 of the NEIC investigation conducted in August 2005, it was found that CWM-KHF failed to conduct an adequate determination of whether their leachate met the treatment standard for PCBs prior to disposal in their on-site surface impoundments **[AON 1]**. The instrument used by CWM-KWF for PCB analyses did not achieve the required detection limit or accuracy to determine whether the concentration of PCBs in samples of leachate that were disposed in the surface impoundments exceeded the appropriate limits. The wastewater treatment standard for total PCBs in F039 wastes is 0.10 mg/L, as specified in 40 CFR § 268.40. Specific information regarding the TSCA laboratory audit, and the analytical procedures used by CWM-KHF for the PCB analysis on their leachate, is documented in the Chemical Waste Management, Inc. Multimedia Compliance Investigation – Phase 1 Report transmitted to U.S. EPA Region 9 on January 17, 2006.

Less-Than-90-Day Accumulation Tanks

The less-than-90-day accumulation tanks used to collect leachate from the landfills and surface impoundments were inspected by NEIC on December 13, 2005. The location, profile number, and waste number (F039) are marked on all the tanks. A hazardous waste label is attached and the date marked on the tank, when the tank is used again after being emptied. Tanks are emptied by a vacuum truck and, depending on the profile, either taken to the ponds or pumped into drums for off-site shipment. All tanks are open-topped and have a high level alarm

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set at 2 feet of freeboard. Pipes that are outside of secondary containment are integrity tested annually. Observations are summarized in Table 4.

Table 4

INSPECTED LEACHATE ACCUMULATION TANKS
Chemical Waste Management - Kettleman Hills Facility
Kettleman City, California

Location	Tank Description	Comments
Pond P-9	Single-walled with containment	Empty
Landfill B-19 phase 3	Single-walled with containment	Empty
Landfill B-19 phase 2	Single-walled with containment	Empty
Landfill B-19 phase 1B		Tank was removed because of construction; riser leachate collected in portable tank stored at BSU
Landfill B-19 phase 1A	Single-walled with containment	Classified as non-hazardous municipal waste High level alarm not working
Pond P-14	Single-walled with containment	Empty
Pond P-16	Single-walled with containment	HW label, start date 11/30/05
Landfill B-18 phase 1A	Tank within a tank and pad with berm	HW label, start date 11/03/05
Landfill B-18 phase 1B	Tank within a tank and pad with berm	HW label, start date 11/16/05
Landfill B-18 phase 2B	Tank within a tank and pad with berm	HW label, start date 11/27/05
Landfill B-18 phase 2A	Tank within a tank and pad with berm	HW label, start date 09/24/05

Groundwater Monitoring Wells Purge Water

At the time of the NEIC inspection, 45 groundwater monitoring (GWM) wells were currently being monitored. The purge water is handled differently depending on the type of well being sampled. The GWM wells are classified as either monitoring wells or corrective action wells. Purge water from monitoring wells is disposed of on the ground next to the well. Purge water from corrective action wells is drummed and classified as F039 hazardous waste. If the purge water is tested and meets treatment standards, it is discharged to the on-site ponds. Recently, CWM-KHF has been shipping it offsite for incineration because of analytical costs.

FSU Baghouse Dust

The FSU is equipped with a large baghouse to collect dusts generated during mixing and treating activities. The baghouse dust is collected in a roll-off container. On December 15, 2005, the label on the roll-off was marked, "Hazardous Waste, Toxic Baghouse Dust, F006, F007, F008, F019, F039, F012, F011, F009." The rolloff was also marked with an accumulation

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start date of 10/25/2005. When the rolloff is full or the period of accumulation for the dust is nearing 90 days, the rolloff is moved to the DSU and tested. The analytical results are used to rework the baghouse dust for solidification at the FSU.

Surface Impoundment Skimmings

The on-site surface impoundments are skimmed when needed, and pond skimmings are generated. CWM-KHF classifies the pond skimmings as F039. In April 2002, the pond skimmings from pond P-16 were sampled and analyzed, and the skimmings failed the F039 treatment standards for acetone, ethylbenzene, toluene, and xylenes [Appendix N]. The skimmings were shipped offsite for incineration.

The skimmings from pond P-16 showed significant levels of organics during the April 2002 sampling **[AON 3]**. Pond P-16 is an on-site surface impoundment permitted to receive hazardous waste for evaporation, and is not allowed to receive any hazardous waste that does not meet the treatment standards. Under the land disposal restriction requirements, evaporation is not an allowable treatment in surface impoundments [40 CFR § 268.4(b)]. Additionally, there is a concern of releases to the environment through evaporation from the levels of organics present in the skimmings. Table 5 shows the results that exceeded treatment standards during the April 12, 2002 sampling event.

Table 5

P-16 POND SKIMMING ANALYTICAL RESULTS EXCEEDING TREATMENT STANDARDS
Chemical Waste Management - Kettleman Hills Facility
Kettleman City, California

Parameter	Result (mg/L)	Treatment Standard (mg/L)
Acetone	29,000	0.28
Ethylbenzene	0.360	0.057
Toluene	0.520	0.080
Xylenes (total)	1.900	0.32
Diethyl phthalate	21,000	0.20
Phenol	61.000	0.039

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WASTE TREATMENT AND LABORATORY TESTING ASSESSMENT

In addition to performing a review of on-site generated wastes and an evaluation of general compliance with RCRA, NEIC assessed the process for receiving, testing, and stabilizing specific, selected loads of RCRA waste. NEIC's assessment included a review of laboratory operations, and the collection and analysis of samples from the selected stabilized waste loads.

Waste Treatment Assessment

Selection of Candidate Waste Streams for Sampling by NEIC

During the first week of the inspection (December 5, 2005), NEIC examined the records for bulk waste loads scheduled to be delivered during the second week of the inspection. The schedule provided to NEIC by CWM-KHF for incoming waste loads for the week of December 12, 2005, is given in Table 6.

Table 6
INCOMING BULK WASTE LOAD SCHEDULE
WEEK OF DECEMBER 12, 2005
Chemical Waste Management - Kettleman Hills Facility
Kettleman City, California

Scheduled Arrival Date	Profile Number	Generator	Number of Bins	Process Code[1]
12/13/05	EB2554	[redacted][2]	2 CM[3]	4R
"	EA5001		1 CM	3C
"	[redacted]		4 DT	4R
"	DD1319		1 CM	4R
"	EC6264		1 CM	STE
"	DZ6556		1 CM	STE
"	EB4012		1 CM	STE
12/14/05	EC0465		12 CM	4R
"	DD1319		1 CM	4R
"	AK5586		4 DT	4R
"	EC6244		1 CM	STE
"	EB4012		1 CM	MACR
"	EC2475		1 CM	MIC MAC
12/15/05	EB2554		2 CM	4R
"	EB6627		1 CM	MIC MAC

1. *Process code 4R refers to waste streams subject to LDR treatment standards that are to be stabilized at the FSU and, in this table, denotes that this particular waste load is not scheduled for annual post-treatment testing. Process code STE refers 4R loads that are due for post-verification testing. All process codes are listed in Table 1 of this report.*
2. *The waste load from [redacted] was delayed until 12/14/05.*
3. *CM and DT refer to type of container used to transport the shipment. CM is a metal box or roll-off. DT is a dump truck.*

Candidate waste streams for post-treatment sampling and analysis by NEIC were selected by reviewing the treatment records for the waste shipments scheduled to arrive during the week of December 15, 2005. In order to check the efficacy and robustness of the stabilization and the STE/post-treatment verification program, two waste profiles that exhibited the greatest historical failure rate were selected for sampling by NEIC. At the time of the NEIC inspection, [redacted] (profile number EB2554) and [redacted] (profile number DD1319) were on the annual recertification schedule [Profiles are included in Appendix O]. The particular loads were not scheduled for STE post-treatment verification testing. A summary of the treatment history for these waste streams is presented in Table 7. This information was taken directly from the "F22" comment fields in the AS400 database.

Table 7
WASTE TREATMENT/TESTING HISTORY OF PROFILES SELECTED BY NEIC FOR SAMPLING
Chemical Waste Management - Kettleman Hills Facility
Kettleman City, California

[redacted] Profile EB2554			[redacted] Profile DD1319		
Initial Treatment Recipe = [redacted]			Initial Treatment Recipe = [redacted]		
Date	Pass/Fail	Manifest	Date	Pass/Fail	Manifest
4/6/2001	Pass 1	99462520	9/5/1997	Pass	93281416
4/9/2001	Pass 2	99462521	9/29/1997	Pass	93281465
4/12/2001	Pass 3	99462522	7/16/1999	Pass 1	99186031
4/19/2002	Annual pass	99462680	7/22/99	Pass 2	99186028
4/25/2003	Annual pass	22118048	7/22/99	Pass 3	9918034
4/16/2004	Annual pass	22118210	7/22/99	Annual pass	99186033
4/26/2005	Fail	22118390	5/9/2000	Annual pass	99186115
4/29/2005	Pass 1	22118392	6/11/01	Annual pass	20962721
5/3/2005	Fail	22118393	5/8/2002	Annual pass	22724462
5/11/2005	Pass 1	22118397	9/15/2003	STE pass	22724798
5/11/2005	Pass 2	22118396	6/15/2004	STE pass	23884002
5/5/2005	Pass 3	22118394	6/18/2004	Annual pass	23884002
			6/2004	Cyanide(CN)failed	23884002
			4/12/2005	CN passed	Not Available
			8/8/2005	Annual pass	23884881
			10/31/2005	Annual pass	23885028

Waste Load Sampling by NEIC

Three post-treatment samples were collected by NEIC of loads from [redacted] and [redacted] on December 13, 14, and 15, 2005. Each sample consisted of two separate containers, representing splits for NEIC and CWM-KHF. Summaries of the treatment recipe for the sampled loads are presented in Table 8.

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Table 8
TREATMENT SUMMARY OF BULK LOADS SAMPLED BY NEIC
Chemical Waste Management - Kettleman Hills Facility
Kettleman City, California

Arrival Date	Profile Number	Generator	Manifest Number	Waste Treatment Recipe[1]			
				Net Weight of Waste (lbs)	[redacted] (gallons)	Added (lbs)	Added (lbs)
12/13/05	DD1319	[redacted]	23885091	12020	[redacted]	[redacted]	[redacted]
12/14/05	EB2554		24565693	22480			
12/15/05	EB2554		24565689	21900			

1. *This data was taken from the completed Waste Testing and Disposal Form for each waste load. The amount of [redacted] added is an estimate provide by the FSU treatment technician.*

The waste load from [redacted] arrived at the FSU on December 13, 2005 at approximately 1439 hours. The tractor pulling the load was tagged with State of California license plate number UP59453. The waste was contained in a green roll-off box/dumpster, bearing a "3077" UN ID number on a hazard class 9 placard. The load was dumped by the driver into FSU 3 at approximately 1645 hours. Operators inside the FSU washed out the box as it was elevated. The wash waters drained into FSU 3. After the driver dropped the box down, the trailer was pulled out of the FSU, and the overhead door was lowered by FSU operators.

In the control room, NEIC personnel observed Mr. Bill Reddick, FSU Lead Stabilization Technician, calculate the reagent weights from the actual waste load net weight and the recipe proportions. The reagents were then added and the waste load was mixed for approximately 10 minutes. Under normal operating conditions, a 4R waste load from a profile that is not scheduled for annual or follow-up (i.e., after a failure, three successive passes are required) STE testing is transferred directly to a quarry truck after mixing. The quarry truck then transports the load directly to the B-18 landfill.

In order to facilitate the sampling of the treated waste, the material was transferred by CWM-KHF personnel to a roll-off box which was moved outside to the north side of the FSU. Here, the treated waste was sampled first by CWM-KHF personnel and then by NEIC.

To prepare for sampling, Christine Alvarez and Rob Hoelscher of NEIC dressed out in coated, hooded protective suits, with taped booties; new, taped nitrile gloves; and full-face air purifying respirators (with MSA GME cartidges). Samples were collected as follows:

- The waste in the roll-off was screened with calibrated air monitoring instruments (a ToxiRae hydrogen cyanide monitor; an Omni-4000 multiple gas/combustible monitor;

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and a Photovac 2020 photoionization detector). The instruments were deployed inside the interior areas of the roll-off dumpster. No readings above ambient levels were registered by the instruments.

- Once the air monitoring was completed, Jackie Vega took photographs of the waste [Appendix A, photographs 87 through 91].
- Sampling began at approximately 1815 hours. A new 2-ounce plastic scoop (Scienceware, in a factory-sealed plastic bag) was used to collect approximately 50 aliquots from all around the accessible portions of the roll-off. The aliquots were placed into a 2.5-gallon plastic bag-lined bucket. The bucket was approximately half full when sampling was complete.
- The waste material was brown in color, slightly granular, fine-grained in texture, and moist but without free liquids. The observed material (at the surface) appeared to be homogenous throughout the roll-off dumpster.
- The contents of the bucket were transferred into a pan lined with new aluminum foil. Splits were created by alternately adding a scoop to two 1-quart glass sampling containers. Approximately 35 to 40 increments were added to fill each quart container.
- One of the unmarked containers was given to Mr. Turek
- The sample containers were identified as S01-CWM (for the facility), and S01-EPA (for NEIC)
- The NEIC sample was placed into a locked ice chest, where it remained overnight and the next day (December 14, 2005) until another pair of samples was collected

At approximately 0950 hours on December 14, 2005, the first of two waste loads from [redacted] arrived at the sampling rack. The two-trailer load was pulled by a cab bearing "Lustrel Trucking" markings with California tag number SP77327. A 4-ounce container and a 32-ounce container were filled by the CWM-KHF sampler from three locations in each box, for a total of four samples. NEIC personnel then observed the processing of the samples and paperwork by the receiving technician. On the WTDF, this particular load was treated as an STE even though the profile indicated that it was not due for STE testing. Additional details about the processing of the sample are provided below under "Laboratory Assessment".

The load arrived at the FSU at the 1140 hours. Both roll-off boxes were dumped into FSU 4. Mixing began at approximately 1253 hours and lasted for approximately 10 minutes. After the reagents were added and mixed with the waste, the waste was placed into two roll-off boxes. The boxes were filled by alternating bucket loads from FSU 4 to the two roll-off boxes. After the transfer was complete, the roll-off boxes were transported outside to the north side of the FSU at approximately 1320 hours where they were sampled by CWM-KHF personnel and NEIC.

The same initial protocols described above for the December 13, 2005 sampling were followed by C. Alvarez and R. Hoelscher for this load, except as follows:

- After the air monitoring and pre-sampling photos were complete, sampling began at approximately 1340 hours. Initial and intermediate containers were not used for these

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samples. Rather, the aliquots were placed directly into each of the two 32-ounce glass sample containers. Due to the wetness and firmness of the material, R. Hoelscher used his gloved fingers to collect each aliquot and place it into the sample containers.

- Approximately 40 aliquots were collected from each roll-off for each sample container, for a total of 80 aliquots for each sample container. As before, accessible portions of the waste around the entire perimeter of both roll-offs was sampled [Appendix A, photographs 107 through 115].
- The material was very moist, brown in color, and fine-grained with grey mottles and white streaks. At the roll-off scale, the material appeared to be fairly homogenous. Sample aliquots included both the white/grey material and the brown "background" matrix.
- After sampling, R. Hoelscher offered both sample containers to Mr. Henry. Mr. Henry selected one of the unmarked containers. The facility sample was designated S02-CWM, and the NEIC sample was designated S02-EPA. The NEIC sample was then secured in the locked ice chest with sample S01-EPA. Both remained in the locked ice chest until the sampling activities on December 15, 2005.

On December 15, 2005, the second load of waste from [redacted] arrived at the FSU at approximately 1040 hours. The two-trailer load was pulled by a cab with California tag number SP77327. The front box of the load was marked "2HT045" and the rear box was marked "2HT048". The boxes had been emptied into FSU 4 by approximately 1120 hours. As the driver scaled out and the load weight was determined, the reagents were added. The load was mixed from 1219 to 1231 hours and then transferred to two roll-off boxes. The roll-off boxes were then transferred to the north side of the FSU where the waste was sampled by CWM-KHF personnel and NEIC.

The same process described for the sampling on December 14, 2005 was followed for this load. Sampling began at approximately 1300 hours. Approximately 40 aliquots from each roll-off box were placed into each sample container, for a total of 80 aliquots per sample container [Appendix A, photographs 122 through 128]. No differences were observed by R. Hoelscher in the physical nature of the waste from the load sampled on December 14, 2005. After the containers were filled, R. Hoelscher offered both to Mr. Sook. Mr. Sook took one on behalf of the facility. This container was designated as S03-CWM. The other sample was designated as S03-EPA for NEIC. Prior to shipping the samples, they were packaged in tamper-evident packaging.

NEIC Sample Shipping and Receiving

The three samples taken by NEIC were sent via Federal Express (air bill number 854899866510) on December 15, 2005, to the NEIC laboratory in Denver, Colorado. The samples were packaged, marked, and shipped in accordance with applicable International Air

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Transport Association (IATA) guidelines, which reflect and are authorized by the International Cargo Air Organization (ICAO) regulations.

The ice chest containing all three samples was received by Don Smith of the NEIC Laboratory Branch on December 19, 2005. The samples were analyzed for solids pH, cyanide, and by the Toxicity Characteristic Leaching Procedure (TCLP) for inorganic constituents regulated under 40 CFR § 268.40.

NEIC Sample Test Results

A summary of the collection and analysis of the NEIC samples is presented in Table 9. Details of sample shipping, receipt, analysis, and data quality are summarized in Appendix P.

Table 9
ANALYTICAL RESULTS FOR NEIC SAMPLES[1]
(WASTE PROFILES EP2554 AND DD1319)
Chemical Waste Management - Kettleman Hills Facility
Kettleman City, California

Sample ID	S01-EPA	S02-EPA	S03-EPA	Universal Treatment Standard (mg/L TCLP)
Generator	[redacted]	[redacted]	[redacted]	
Manifest Number	23885091	24565693	24565689	
Date Sampled	12/13/2005	12/14/2005	12/15/2005	
Time Sampled	1815 hours	1340 hours	1300 hours	
NEIC Tag Number	NE16751	NE 16752	NE 16753	
Cadmium (mg/L TCLP)[1]	< 0.01	< 0.01	**2.03**	0.11
Lead (mg/L TCLP)[1]	< 0.005	0.037	**1.32**	0.75
TCLP Final pH	9.68	10.59	6.88	NA
Soil pH	11.8	10.3	10.6	NA
Total Cyanide (mg/kg)	28.5	N/A	N/A	590

1 *These results are an average of three TCLP extractions. Bold text indicates that the TCLP result exceeds the Universal Treatment Standard given in 40 CFR 268.48.*
NA = not applicable, N/A = not analyzed

According to records provided to NEIC by CWM-KHF, the waste stream from [redacted] has failed to meet the UTS limits specified in 40 CFR § 268.48, Universal Treatment Standards, 2 out of 12 times tested [Table 7]. In addition, one out of the two waste loads sampled by NEIC in December 2005 exceeded the UTS limits [Table 9]. Overall, including the NEIC results, the waste has failed to meet the UTS limits 3 out of 14 times sampled or 21.4 percent of the time **[AON 4]**.

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There is a concern that hazardous wastes, that do not meet the LDR treatment standards, may have been disposed in the landfills **[Area of Concern (AOC) A]**. After treating hazardous waste to meet RCRA LDR treatment standards at the FSU, CWM-KHF only tests some of the loads for constituents of concern to determine if the treatment standards have been met. Under CWM-KHF's stabilization treatment evaluation (STE) program, the post-treated loads are not sampled for a year once the wastestream has three consecutive passes for the LDR treatment standards and becomes part of the STE program. NEIC selected wastestream loads that were under the STE program (and would not have normally been tested) to sample during the inspection. NEIC results for one of the loads selected were above the LDR treatment standards.

Review of Treatment Documentation

As an additional follow-up, NEIC reviewed fingerprint test results for all [redacted] waste loads with waste profile EB2554 received by CWM-KHF for calendar year 2005. According to the records reviewed, 128 waste loads were received and treated by the facility. Fingerprint testing results (on incoming loads) for pH on all loads was approximately 6 standard units.

NEIC reviewed the recipe development documentation and AS400 "F22" comment fields for the [redacted] wastestream [Appendix O]. The [redacted] wastestream (profile number EB2554) is described as baghouse dust from steel manufacturing, and has been determined to be a D006, D008 hazardous waste (toxicity characteristic for cadmium and lead). The baghouse dust was under the STE/post-treatment verification program, and failed its annual post-treatment test on April 26, 2005, at 2.90 mg/L cadmium and 1.70 mg/L lead [Table 7]. The treatment recipe was [redacted] The April 26, 2005 load was retreated until it met treatment standards and could be land disposed. Another [redacted] load was received on April 29, 2005, which was also treated with the same recipe of [redacted] This treated load met the LDR treatement standards. The next [redacted] load was received on May 3, 2005, and also treated with the same recipe of [redacted] The May 3, 2005 load failed the LDR treatment standards at 3.7 mg/L cadmium and 2.7 mg/L lead. This load was retreated until it met LDR treatment standards and could be land disposed. One [redacted] load was received on May 5, 2005 and two more [redacted] loads were received on May 11, 2005. These three loads were treated with the same recipe of [redacted] and passed the LDR treatment standards. Based on the above results, the wastestream was determined to have passed three consecutive times for the LDR treatment standards, and would, according to the STE testing program, receive no further post-treatment testing until the annual test was due. Two loads of this wastestream were selected by NEIC for post-treatment testing, and one of the loads failed the treatment standards after on-site treatment. CWM-KHF had treated this waste using the recipe of approximately [redacted].

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CWM-KHF did not modify the recipe for stabilization of the baghouse dust from [redacted] even though repeated previous failures of the treatment standards were documented **[AOC B]**. Although the facility did achieve three successive passes with this recipe, the historical failures provide no assurance that the waste in fact met treatment standards for loads that were not tested.

NEIC reviewed the profile documentation and AS400 "F22" comment fields for the [redacted] wastestream [Appendix O]. The wastestream (profile number DD1319) was described as wastewater treatment sludge from an alodine process, and has been determined to be a D004, D006, D007, D008, F019 hazardous waste. In the "F22" comments field for the profile, on July 2, 1999, [redacted] claimed that no cyanide is used in the process and the cyanide value for the wastestream should be changed from 51.5 mg/L to none. However, in June 2004, corroborative testing of the sludge for amenable cyanide failed the treatment standard at 35 ppm (treatment standard is 30 mg/kg^3 for amenable cyanide) [Appendix O, page 11]. The recipe used for stabilization of the sludge is [redacted] and [redacted] This recipe was developed in July 1997 and is still being used for this wastestream. CWM-KHF does have sodium hypochlorite available to treat cyanide-containing wastes.

CWM-KHF used impermissible dilution as a substitute for adequate treatment for cyanide wastes generated by [redacted] **[AON 2]**. CWM-KHF treated the wastewater treatment sludge from [redacted] which has been shown to contain cyanide, by stabilization. EPA considers stabilization of cyanide to be impermissable dilution [July 31, 1990 letter from Sylvia Lowrance, OSW to the National Solid Wastes Management Association, Appendix Q]. Stabilization reduces the leachability of cyanide, but does not destroy it. The best demonstrated available technology (BDAT) for cyanide is based on the performance of alkaline chlorination, which destroys the cyanide constituents.

Onsite Laboratory Assessment

During the December 2005, inspection, an assessment of the CWM-KHF onsite laboratory was conducted by Don Smith. The laboratory operations that were examined include:

- Sample Receipt
- Fingerprinting
- Recipe Development (discussed above in this report)
- TCLP Extraction
- ICP Analysis
- Mercury Analysis
- Flashpoint Analysis
- Cyanide Analysis

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Sample Receipt

Samples are received at CWM-KHF by a chemist or waste receiving technician in the sample receipt area of the laboratory [Appendix A, photographs 30 and 31]. The samples are logged into the laboratory database and compared to information taken from the AS400. From the receiving area, the samples are taken to storage where they are stored until analysis.

Fingerprint (Mandatory) Analysis

A series of screening tests which are described in Section 3.1of the facility's WAP are performed on samples of incoming waste. According to the WAP, these "mandatory analyses", consist of seven basic procedures, including the following:

- Physical Description
- Flammability Screen
- Water Compatibility
- pH Screen
- Oxidizer Screen
- Cyanide Screen
- Sulfide Screen

On December 14, 2005, NEIC observed the mandatory testing of the [redacted] bulk waste load. The load arrived at the bulk receiving area at 1020 hours. The samples and manifest were then processed by Rose Salazar, CWM-KHF receiving technician. After processing, the samples were transferred to the analytical laboratory where Ms Salazar performed the mandatory testing.

After being transferred to the laboratory, the sample jars were opened in a fume hood and described. After the physical description was entered into a log book, a small amount of the solid sample was poured into two containers. These sub-samples were mixed with an equal amount of water and the pH of the liquid was measured using pH paper. Cyanide, sulfide, and oxidizer test strips were then attached to the sides of the containers and concentrated sulfuric acid added to one container and concentrated nitric acid added to the other. The technician then checked the tests strips for an indication of cyanide or sulfide evolution and for a positive oxidizer result. During fingerprint testing, the CWM-KHF laboratory does not check the pH of the waste samples being tested to ensure that enough acid is added to achieve a pH of less than 2 **[AOC C]**. For many wastes that have a very high pH, this could result in false negative results for the sulfide or cyanide reactivity screen.

TCLP Analysis

Characteristic waste that is treated by CWM-KHF must be treated to meet the UTS listed in 40 CFR § 268.40, Applicability of Treatment Standards, and 22 CCR 66268.40. In order to show that the LDR treatment standards have been met, the treated waste is sampled by CWM-KHF and subjected to the TCLP. After the extraction is complete, the samples are acid-digested, filtered, and analyzed by Inductively Coupled Plasma-Optical Emission Spectrometry (ICP-OES). The ICP-OES analyzes the TCLP extracts for elemental constituents to determine whether the waste treated on site meets the requirements of 40 CFR § 268.48. The instrument is calibrated using a set of multi-element standards. However, the calibration only included the contaminants listed in 40 CFR § 268.40 and not the potentially interfering elements found in the samples. This means that the laboratory could not perform inter-element corrections to correct for potential false positive or false negative sample results **[AON 5]**.

Mercury Analysis

The TCLP extracts and other samples are also analyzed for mercury. This analysis is done on a Perkin-Elmer cold-vapor atomic absorption spectrophotometer. Cold-vapor atomic absorption technique (CVAA) is based on the absorption of radiation at 253.7-nm by mercury vapor. The mercury is reduced to the elemental state and aerated from solution in a closed system. The mercury vapor passes through a cell positioned in the light path of an atomic absorption spectrophotometer. Absorbance (peak height) is measured as a function of mercury concentration. Prior to sample analysis, a calibration curve is prepared. A calibration curve that was generated on December 5, 2005 was examined by NEIC. The curve met the requirements of SW-846 method 7470A. NEIC also examined the check standards, blanks, and matrix spikes that were analyzed. These quality control measures were also found to meet the requirements of the method.

Ignitability Testing

Ignitability, as defined by 40 CFR § 261.21, Chracteristic of Ignitability, is determined by CWM-KHF by measuring the flashpoint of the samples using the Pensky-Martin closed-cup method. This method uses a standard size metal cup that holds approximately 40 milliliters of waste. The temperature of the waste is gradually raised while a flame is applied at regular intervals. A flame propagating across the surface of the sample indicates the flash point of the waste. Before performing the test on the sample, the laboratory analyzes a standard compound to check to see whether the instrument is operating correctly. The standard used by the laboratory to check the performance of the method is para-xylene, which has a flash point of 81 °F. The laboratory analyzed the sample before each batch of samples but did not evaluate the

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result of the standard analysis. In some cases, the result for para-xylene was 100 °F, which is 19 °F higher than the certified value. This means that results reported for the associated sample batch may have been biased high. This bias could have caused CWM-KHF to designate waste that was ignitable to be incorrectly managed as non-ignitable waste. **[AOC D].** NEIC is awaiting additional information from the facility to determine the disposition of waste associated with the incorrect sample analysis.

Cyanide Analysis

During the laboratory assessment, NEIC evaluated the CWM-KHF laboratory cyanide analytical capability. The laboratory analyzes waste samples for both total and amenable cyanide using EPA SW-846 methods 9010B and 9014 respectively. Dan Larkin, a CWM-KHF chemist described the sample preparation and analysis steps used to determine cyanides. The methodology used by the laboratory included: blanks, calibration checks, and matrix spikes. Quantization of cyanide is performed using a titration with silver nitrate. NEIC examined analyses that were conducted on December 5, 2005. The method requirements for calibration, calibration checks, blanks, and replicate analysis were met for the package examined.

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TSCA COMPLIANCE EVALUATION

INTRODUCTION

The assessment of CWM-KHF's compliance with TSCA requirements was performed by C. Alvarez and R. Hoelscher of NEIC. The assessment primarily focused on processing-related activities (e.g., acceptance, receipt, storage, draining/flushing, and disposal) subject to control by the facility's TSCA permit and 40 CFR Part 761 provisions (Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commers, and Use Prohibitions). Sampling and measurement activities associated with permit-required environmental monitoring were addressed in the first report for this investigation. In addition to summarizing observations from the December 2005 inspection, this TSCA media report also presents relevant compliance-related observations from NEIC's August 2005 inspection.

REGULATORY BACKGROUND

The original Approval to Operate ("federal TSCA permit") a PCB landfill (B-14) was issued by U.S. EPA Region 9 to CWM-KHF on June 29, 1981. Subsequent amendments have permitted the disposal in landfills B-16, B-19, and most recently, landfill B-18. At the time of the NEIC inspection, landfill B-18 was the only landfill authorized to accept TSCA-regulated PCB waste. In general, the disposal requirements in the amended permit for these wastes are consistent with the revised federal TSCA regulations promulgated in the 1998 PCB "mega-rule."

Landfill B-18 and the PCB storage unit, which is permitted under State of California's hazardous waste permit (02-SAC-03), are the two main regulated units in which TSCA PCB wastes are managed. Federal TSCA PCB oversight for activities in the PCB storage unit is addressed in the federal TSCA permit. Notably, the federal TSCA permit affirms the Storage for Disposal provision at 40 CFR 761.65(d)(7), which states that storage areas ancillary to a TSCA-approved disposal facility are exempt from a separate storage facility approval if certain conditions are met.

The federal TSCA permit outlines disposal and draining/flushing (where applicable) requirements for the following specific wastes:

- PCB soil, rags and debris
- PCB dredged materials and sewage treatment sludge
- PCB transformers
- PCB contaminated electrical equipment
- PCB contaminated capacitors

- PCB small capacitors
- PCB large high or low voltage capacitors
- PCB hydraulic machines
- PCB articles
- PCB containers

In addition to TSCA-regulated PCB waste (e.g., in general, containing PCBs above 50 ppm), CWM-KHF is also authorized to accept PCB-containing wastes which are regulated by the State of California. The universe of state hazardous wastes includes non-TSCA, non-RCRA, less than 50 ppm PCB-containing wastes. Applicable state hazardous waste codes for PCB-bearing wastes are 261 (polychlorinated biphenyls and material containing PCBs) and 731 (liquids with polychlorinated biphenyls $\geq$ 50 mg/L) The characteristic of toxicity at 22 CCR 66261.24 includes wastes which exhibit a PCB STLC above 5.0 mg/L, and a total threshold limit concentration (TTLC) for PCBs of 50 mg/kg. According to 22 CCR 66261.113, a waste with a PCB TTLC above 5,000 mg/kg is defined as an extremely hazardous waste. For land disposal of state-regulated PCB-containing wastes (solids), the state treatment standards require disposal in a hazardous waste landfill and also reference applicable federal TSCA requirements.

ON-SITE INSPECTION SUMMARY

After the introductory meeting on December 6, 2005, NEIC inspectors conducted a process overview and then the assessment of TSCA compliance. NEIC's assessment included a review of relevant initial waste and load acceptance procedures, an inspection of the DSU and PCB storage unit, interviews with operators, clerks, and environmental staff involved with PCB handling/tracking, and a review of records.

PCB Waste Initial and Load Acceptance

CWM-KHF has instituted a waste acceptance program for determining the appropriate waste classification (e.g., physical, chemical, regulatory) and on-site process for candidate RCRA, TSCA, and State of California hazardous waste streams. During initial waste acceptance review process, applications for candidate waste streams may be compared to existing profiles which are similar in physical and chemical characteristics, and generated by the same generator, or similar industries and processes.

According to Mr. Sook, CWM-KHF does not require analytical testing data for potential TSCA-regulated PCB-bearing wastes. Mr. Sook also stated that if available, analytical testing data is attached to the profile, and presented in the AS400 system. It was his understanding that most generators are using knowledge/assumptions (i.e., determinations other than actual testing) to certify the concentrations of the potential TSCA-regulated or state-regulated wastes sent to CWM-KHF. According to Mr. Sook, the profiles and the AS400 system do not contain a field

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for noting the source of the PCB concentration information – that is, a generator is not required to check a box or state that he/she is using knowledge/assumption/nameplate information for determining the PCB concentration of a candidate waste stream. Mr. Sook stated that CWM-KHF is "taking the generator's word" about PCB concentrations in these wastes.

Pursuant to the Storage and Disposal requirements at 40 CFR 761.50 (a)(5), testing is required for non-liquid TSCA PCB wastes prior to land disposal unless the generator presumes the item contains PCBs >500 ppm. For capacitors, a generator may use the exclusion at 40 CFR 761.60(b)(2) to demonstrate that a subject capacitor does not contain PCBs. The PCB Concentration Assumption for Use provision at 40 CFR 761.2 only applies to PCB items that will be used or reused, and does not apply to items that will be disposed. In its 2001 PCB Question and Answer Manual, U.S. EPA repeatedly states that the actual concentration of PCB waste must be known prior to disposal **(AOC E)**.

Once a waste is accepted and a profile is assigned, incoming PCB waste loads are generally handled in the same manner as other wastes described above in the "Process Description" section of this report. Receiving technicians determine the type of treatment based upon a review of the waste profile and manifest of the received load. Sampling is not performed on TSCA PCB loads (bulk or containerized) per WAP exception #5 [Table 1]. Direct landfill wastes are accompanied by a grid sheet. Containerized TSCA wastes are processed through the DSU by off-loading directly into a second trailer. Piece counts and a general load verification are performed by DSU technicians with the Drum Inventory Sheet. The Drum Inventory Sheet also specifies the applicable treatment code(s), which for PCB items will typically be three in number.

Once a load's contents have been verified (i.e., actual piece counts and container types agree with paperwork) by the DSU technicians, TSCA wastes are delivered to the PCB storage unit. If discrepancies arise during the intial off-loading process, the DSU technicians consult the receiving technicians for resolution. As necessary, the receiving technicians will contact the generators to resolve discrepancies.

Inspection of DSU and PCB Storage Unit

NEIC visited the DSU and PCB storage unit during the first and second inspections. In addition to Mr. Sook, NEIC spoke to Jess Juarez, the DSU lead, on both occasions, and to Jose Rodriguez, a DSU technician who reports to Mr. Juarez, during the second inspection. The DSU is responsible for the PCB storage unit. NEIC reviewed the processing operations at both units pertaining to PCB wastes, and associated paperwork generated during the management of the wastes.

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Unit Design and Operation

According to Jess Juarez, the PCB storage unit is used for the temporary storage, drainage, and flushing of TSCA- and non TSCA-regulated PCB wastes. PCB waste generated at the CWM-KHF laboratory and process areas are accumulated in containers, 55-gallon drums, and labpacks, and brought to the PCB storage unit for processing. The PCB storage unit consists of an enclosed building with an internal vinyl epoxy resin-coated concrete floor. The concrete floor has a 1.5-foot continuous berm inside and adjacent to the walls to serve as secondary containment (20,000-gallon capacity). The concrete floor slopes toward a nondischarge (i.e., blind) sump. The PCB storage unit is permitted to store up to 300 55-gallon drums and 10,000 gallons of PCB-containing TSCA and California hazardous wastes in the PCB storage tank for up to 1 year.

The PCB storage tank is an indoor 10,000-gallon carbon steel tank permitted by the state to contain RCRA, TSCA, and state hazardous wastes. According to Mr. Juarez, the PCB storage tank is equipped with a liquid level indicator and high level alarm system. The tank receives less than 50 ppm and greater than 50 ppm TSCA-regulated, and state-regulated liquids drained from electrical equipment and drums. It also receives contaminated diesel fuel from flushing/redraining operations on certain PCB items. The fresh diesel fuel is contained in a 1,000-gallon tank within a berm outside of the PCB storage unit.

Diesel fuel for flushing is dispensed from an dedicated hose/nozzle system within the PCB storage unit. Liquids are removed (i.e., pumped) from items with a long "wand" connnected to a diaphragm pump. Draining operations are performed by inserting the wand into the item and activating the pump. Drain volumes/PCB storage tank additions are determined from the level recorder on the PCB storage tank. According to Mr. Juarez, smaller items are drained/flushed inside the PCB storage unit. The items are placed into plastic-lined containment trays with absorbent.

Outside, on the east side of the PCB storage unit, is an area to drain/flush large PCB articles (such as large transformers) that are too large to fit inside the PCB storage unit. Large PCB articles are set inside steel containment trays (8 feet by 8 feet by 10 inches), and the contained liquid is drained (as received, or from diesel fuel flushing) into the PCB storage tank. Each tray is lined with plastic sheeting and absorbent material before draining and/or flushing begins. Personnel protective equipment (i.e. gloves, suits, etc.) and waste created during the drain and flush process are placed into 55-gallon drums, temporarily stored at the PCB Storage Unit, and sent to landfill B-18.

Regarding the general operation of the PCB storage unit and the knowledge level of technicians, Mr. Sook stated to NEIC during the first inspection that the TSCA standard division

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practice (SDP) for the PCB storage unit is used for training technicians who will be working in the unit [Appendix R]. During the second inspection, NEIC asked Jose Rodriguez about the management of incoming loads, and specifically, how he knew which wastes should go to the PCB storage unit. Mr. Rodriguez stated that he looks for process codes 03, 04, 05, and 3T on the drum inventory sheet as keys for items requiring placement in the PCB storage unit.

During NEIC's first inspection, NEIC inspectors asked how small non-PCB capacitors were managed. Jess Juarez stated that small non-PCB capacitors (containing less than 50 ppm) are packaged in an overpack and sent to the landfill. Mr. Juarez also stated that small non-PCB capacitors may be drained and have absorbent added, depending upon the amount and PCB concentration of the liquid present in the capacitor. Mr. Juarez also stated that absorbent is added to drained items (both those received drained and those drained by CWM-KHF) to absorb any remaining free liquid.

During the second inspection, NEIC conducted a general inspection of containers in the DSU. On December 9, 2005, NEIC observed two pallets of shrink-wrapped, non-PCB capacitors/light ballasts (each containing 12 units) [Appendix A, photographs 66, 67, and 68] . NEIC inquired about the status of these non-PCB items. According to Mr. Juarez, they were awaiting a final process determination. NEIC requested the waste profile (CA6547) for these materials, and subsequent to the inspection, the final disposition paperwork (e.g., the "daily jacket," which contains all the internal paperwork). NEIC's review of the information indicated that the bar code label and manufacturer's information was consistent with the profile. The final disposition paperwork indicated that the items were received on January 20, 2005. They were overpacked in six drums with absorbent and landfilled on January 4, 2006. Although small non-PCB capacitors are not regulated by the federal TSCA permit, the handling of these items was consistent with profile information.

NEIC also inquired about the handling of PCB small capacitors. Mr. Rodriguez stated that small PCB capacitors were not overpacked prior to disposal in the landfill. As discussed further below, CWM-KHF does not track PCB small capacitors in its annual document log , nor does it have a PCB process tracking code for handling PCB small capacitors. In addition, waste profile sheets and completed waste profiles do not specify whether a capacitor is a PCB small PCB capacitor. The procedures and paperwork for managing small PCB capacitors may warrant additional inquiry **[AOC F]**.

Documentation

Once an item is received by the DSU/PCB storage unit and a bar code label is attached, the process code is written on the unit. Drum technicians assign a unique barcode label to each drum or container. In the event that the barcode system is temporarily down, the DSU

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technicians will write the manifest number, date and profile number on top of the drums/articles until the proper labels can be printed. Barcode labels include the following: date received, manifest number, drum number, generator name, out-of-service date (if applicable) and profile number.

A DAR is generated by the receiving technicians/laboratory, and used by the PCB storage unit to record the physical description, volume of oil drained, rinsed and flushed, and dates [drained, flushed, out-of-service date (OSD), and profile expiration dates] for each unit. If water is present, the pH is measured and recorded on the DAR. The DAR is then sent back to the receiving technicians, who assign a final process code. For each unit drained, flushed and rinsed, a PCB Processing Log is also generated by the PCB storage unit to document specific times and amounts of draining and flushing as applicable. Item information is also contained on the PCB Processing Log.

Transfers into the PCB storage tank are recorded on a PCB Tank Record. The active record is maintained at the PCB storage tank, and historical records are kept in the DSU office. For each addition to the tank (drains and flushes), technicians record the date, OSD, generator's name, manifest and profile number, number of units drained, gallons drained, and PCB concentration. A copy of the Processing Log is sent to CWM-KHF Waste Tracking Clerk for entry into the ARev Waste Tracking System. The PCB Tank Record (original hardcopy) is filed by year at the DSU building.

Wastes moved offsite from the PCB storage unit (for example, PCB-bearing waste from the on-site laboratory; PCB liquids from the PCB storage tank; and direct transfers) are accompanied by a waste transfer log. An outgoing manifest is then generated for the off-site shipment.

PCB Storage Unit Inventory

On December 13, 2005, NEIC performed a spot check of PCB items in storage at the PCB storage unit. Prior to conducting the inventory, NEIC requested that CWM-KHF produce a monthly inventory summary of all items in the DSU and PCB storage unit. All items checked by NEIC in the PCB storage unit were present on the inventory summary, and the bar code and drum lid markings (process code) on each item checked by NEIC were consistent with the information in the inventory summary. Based on the lid markings and process codes in the inventory summary, nearly all the items observed by NEIC were slated for disposal off-site at Port Arthur, Texas (process code 01P).

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With the exception of the concern noted above **[AOC F]** about PCB small capacitors, NEIC inspectors did not identify any areas of noncompliance or concern during the inspection of the PCB storage unit.

Records and Tracking System Review

PCB Waste Tracking and Records Management

NEIC discussed tracking systems and related paperwork processing for PCB wastes with Ms. Reddick, the PCB Clerk, and Ms. Mecchi, the Waste Tracking Clerk. As with other wastes managed at the facility, Ms. Mecchi enters in waste tracking information (i.e., profile, manifest number, date received, location, volume/wt., etc.) from internal documentation (i.e., the drum analysis record, drum inventory sheet, waste transfer logs, etc.).

For PCB wastes, the ARev system has an attached PCB tracking module which is primarily accessed and managed by Ms. Reddick. The PCB tracking module includes fields for relevant PCB waste-specific information such as the OSD, item weights, unique identification number, and draining/flushing volumes and times. A set of process codes unique to PCB wastes are used in the PCB tracking module [Table 10].

Table 10
PCB PROCESS TRACKING CODES
Chemical Waste Management - Kettleman Hills Facility
Kettleman City, California

Profile Processing Code for PCBs	PCB Process Code	PCB Process Tracking Code					
		Drum (D)	Article Container (A)	Article (E)	Capacitor (C)	Transformer (T)	Bulk (B)
SOA (off-site to Onyx/Phoenix)	SOA						
01P (off-site to Port Arthur)	26	26D	26A	26E	26C	26T	N/A
3T (direct landfill)	3D	3DD	3DA	3DE	N/A	3DT	3DB
05 (flush)	37	37D	37A	37E	N/A	37T	N/A
04 (drain)	8	8D	8A	8E	N/A	8T	N/A
03 (drain and flush)	9	9D	9A	9E	N/A	9T	N/A

A PCB tank listing is generated by Ms. Reddick to track PCB waste oil (including flushes) drained into the PCB storage tank. The PCB tank listing is created from the PCB tank record generated from the tank additions at the PCB storage unit. The PCB tank listing record

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for each item contributing liquid to the PCB storage tank includes the item received date, the OSD, the generator name, incoming manifest number, profile number, ARev count, number of gallons, disposal status of the drained carcass to landfill B-18, the date the generator received the certificate of disposal for the carcass, and the oil incineration date. According to Ms. Reddick, the oldest OSD from an item drained into the tank is used for the tank oil OSD. Ms. Reddick begins to schedule an off-site shipment to Port Arthur once the level in the storage tank reaches approximately 5000 gallons, or the tank oil OSD approaches 9 months

Ms. Reddick also generates manifests for off-site shipments of drummed PCB waste to Port Arthur, Texas. Ms. Reddick compiles a working list in a spreadsheet of PCB-waste drums (which may include both on-site generated laboratory waste and off-site transfers) slated for off-site disposal. Once a drum count for a full load is reached, Ms. Reddick will initiate the paperwork to move the load of drums offsite. After the load is incinerated, Port Arthur sends a Certificate of Destruction to CWM-KHF. Ms. Reddick will complete a CWM-KHF Confirmation of Destruction and send it to the original generator.

For TSCA- or non-TSCA regulated waste disposed of at CWM-KHF (including drained items), Ms. Reddick issues a Certificate of Disposal (CD) within 30 days of disposal to the generator. This is done unless the CWM-KHF and the generator have contractually agreed to another time. Two CDs are generated. One CD goes with the manifest package and the other is sent to the generator.

Once a month, Ms. Reddick generates a monthly summary of waste by PCB tracking process codes from the PCB tracking module. If a discrepancy is identified, Ms. Reddick will document that the PCB waste was handled differently than profile information (on the AS400 database F22 comments). Once all the documentation has been reviewed and validated, records are transferred to Ms Vincent, Records Clerk at CWM-KHF, for filing or archiving.

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Records/Documents Reviewed by NEIC

During the inspection, NEIC requested and received a copy of the facility's annual document log and annual report for calendar year 2004. Both documents are prepared by Ms. Reddick from data contained in the PCB tracking module. Ms. Reddick stated that she prepares the Annual Document Log by July 1 for TSCA wastes received during the previous calendar year (January to December). The annual document log is maintained on-site, and a copy of the annual report is submitted to U.S. EPA Region 9 and the DTSC.

In addition to the information required pursuant to the Records and Monitoring provision at 40 CFR § 761.180 (b)(2), the 2004 annual document log [Appendix S] received by NEIC reported the PCB process tracking code for each listed item. NEIC requested a hardcopy printout of the 2004 document log with items grouped by PCB process tracking code, and including the total item counts and weights. Ms. Reddick prepared the requested document, which for purposes of this report, will be called the "2004 process tracking code log". Table 11 summarizes the information contained in the 2004 process tracking code log.

Table 11
SUMMARY OF TSCA WASTES REPORTED IN 2004
Chemical Waste Management - Kettleman Hills Facility
Kettleman City, California

PCB Process Tracking Code	Item Count	Total Wt (kg)	Total Drained (gallons)	Total Flushed (gallons)
26D (shipment of drums of onsite-generated waste to Port Arthur)	33	132	N/A	N/A
26D (transfer of offsite-generated waste to Port Arthur)	143	14857	N/A	N/A
SOA	4	557	N/A	N/A
3DD	1216	367179	N/A	N/A
3DE	921	286105	N/A	N/A
3DT	4	2000	N/A	N/A
3DB	597	10726536	N/A	N/A
37D	19	1562	N/A	77
37T	103	36378	N/A	3043
8D	212	33282	8793	N/A
8E	25	7881	669	N/A
9D	7	1856	114	114
9T	52	10815	993	993

NEIC conducted a basic data quality review of the annual document log. The first step was to select specific manifest loads from the 2004 process tracking code log and review the fields for the loads in the PCB tracking module. NEIC requested that Ms. Reddick access the computer records for at least two manifest loads from each process code for which wastes were

handled during 2004. Once examples from all codes were reviewed in the PCB tracking system, NEIC requested hard copy documentation (i.e., processing paperwork, manifests, CD – collective referred to as the "daily jacket") for a select number of manifest loads reviewed in the PCB tracking module. The documents requested (and reviewed), along with profiles for these wastes and others, are summarized in Table 12.

Table 12

SUMMARY OF TSCA-RELATED WASTE PROFILES AND LOAD PAPERWORK REVIEWED BY NEIC [1]
Chemical Waste Management, Inc.
Kettleman Hills, California

Waste Profile No.	Manifest and NEIC Doc.#[2]	Generator	State Code	Waste Description [3]	Process Code [4]	Load Paperwork or Profile comments [5]
EC5199	2318404 (in) 3214884 (out) 12a	[redacted]	261	PCB-contaminated debris	01P	Manifests, DIS, WTL, o/s checklist, PCB drum XL, CD from Port Arthur, CD to [redacted]
F65675 (oil in drum) F656781 (carcass)	23573315 12b	[redacted]	261	PCB-oil containing < 500 ppm (F65675) Drained elec. equip. ,< 500 ppm PCB (F656781)	04, 01P, 3T (drum/F65675) 3T (carcass/ F656781)	F65675: Manifest with ID, OSD, wts, conc on manifest cont. sheet; grid sheet, DAR, PCB process log, PCB tank listing, CD, o/s checklist, o/s manifest, WTL for oil, CDs for oil and carcass; Manifest cont. sheet instructs user to specify 500 ppm if untested)
BQ4113 (debris) F65671 (carcass) F65675 (oil)	22083852 12c	[redacted]	611 (debris) 731 (oil) 261 (carcass)	Soil/debris with 50-499 ppm PCB (BQ4113)	3T	Manifest with IDs, wts., volumes, PCB conc. on manifest cont. sheet; grid sheet, DIS (original and by process code), CD
K65586	24744274 23	[redacted]	261	Non-RCRA haz waste, PCB solids < 50 ppm	3T	Manifest, grid sheet
K65586	Profile only 26c, 29	[redacted]	261, 352	Clean-up of PCB containing spills (< 50 ppm non TSCA source)	3T	No test data
K65586	Profile only 29	[redacted]	261, 352	Clean-up of PCB containing spills (<50 ppm, non TSCA source)	3T	No test data
F65676	Profile only 26e	[redacted]	731, 261	Draining oil-filled electrical equipment (oil > 500 ppm)	04, 01P, 3T	No test data
F65675	Profile only 26f	[redacted]	261, 731	Draining oil filled electrical equipment (oil < 500 ppm)	04, 01P, 3T 01P	No test data
F65672	Profile only 26g	[redacted]	261, 751, 731	Drained elec. equipment formerly cont. PCB oil > 500	05, 01P, 3T	No test data

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Waste Profile No.	Manifest and NEIC Doc.#[2]	Generator	State Code	Waste Description [3]	Process Code [4]	Load Paperwork or Profile comments [5]
				ppm (transformers, circuit breakers, switches)		
F65674	23522308 27c	[redacted]	731, 261	Electrical equipment cont. > 500 ppm PCB	03, 01P, 3T	Manifest with ID, wts, volumes, and concentrations on manifest cont. sheet (instructs user to specify > 500 ppm if untested); DIS, PCB process log, CD, grid sheet, DAR
F65674	24535653 daily jacket, from DSU 17	[redacted]	731, 261	Electrical equipment containing >500 ppm oil	03, 01P, 3T (from DAR)	Grid sheet, DAR, PCB process log
F65674	Profile only 17	[redacted]	731, 261	Electrical equipment cont. >500 ppm oil	03,01P,3T	No test data
F65671 and F65674	22932385 27e	[redacted]	261 (both)	Drained electrical equipment, < 500 ppm (F65671); > 500 ppm (F65674)	3T	Manifest with ID, wts. and conc. on manifest cont. sheet; CD, initial and by process code DIS, grid sheet
F65671	Profile only 27e	[redacted]	261	Drained electrical equipment < 500 ppm	3T	No test data
F65673	Profile only 27h	[redacted]	261, 731	Electrical equipment with oil < 500 ppm	04, 01P, 3T	No test data
F65673	22083792 27h	[redacted]	261, 731	Electrical equipment containing oil < 500 ppm	04, 01P, 3T	DIS initial and by process code, manifest with ID, wts, vols, OSD, discrepancy report, PCB process log for all 10, CD, grid sheet, DAR with adj. manifest sheet with info instructs to write 50-500 ppm if untested and write > 500 ppm for capacitors and other elec. equipment
AJ9537	Profile only 26b	[redacted]	261, 731	PCB transformer with oil (< 500 ppm)	04, 01P, 3T	No test data
AJ9537	24177247 27a	[redacted]	261, 731	PCB transformer with oil < 500 ppm	04, 01P, 3T	DIS, manifest, PCB process logs, grid sheet, DAR
DZ3290	Profile only 26d	[redacted]	261, 731	Draining transformers into drums (50 - 499 ppm PCB)	01P, 04, 01P, 3T	No test data
EB7830	Profile only 26a	[redacted]	261	PCB transformer carcasses <500 ppm, drained with abs added	3T	No test data
EB8573	22126917 27i	[redacted]	261, 751	Transformer drained, not flushed > 500 ppm	05, 01P, 3T	Manifest, with ID, wt, and OSD, PCB process log for all 10 units, CD, grid sheet, DAR
EB8573	2344405 27f	[redacted]	261, 751	Transformer drained, not flushed > 500	05, 01P, 3T	Manifest, DIS with ID, PCB process log, grid sheet, DAR

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Waste Profile No.	Manifest and NEIC Doc.#[2]	Generator	State Code	Waste Description [3]	Process Code [4]	Load Paperwork or Profile comments [5]
				ppm		
EB8573	Profile only	[redacted]	261, 751	Transformer drained, not flushed > 500 ppm	05, 01P, 3T	No test data
CA6547	Profile only 26h, 30	[redacted]	223, 352	Non-PCB capacitors with oil	06	No test data (units observed at DSU by NEIC) Document 30 contains history of profile – codes have changed over time
CA6457 and others	23424309 post-inspection	[redacted]	221	Non-PCB capacitors with oil	06	Manifest, DIS, DAR, WTL, grid sheet
BC9813	Profile only 10	[redacted]	731, 261	PCB waste from PCB storage tank	01P	No test data, but handled as > 500 ppm
BC9813	3214872 11	[redacted]	223, 352	PCB waste from PCB storage tank	01P	Manifest, o/s checklist, WTL, CD, PCB tank listing
EC6378	Profile only 28	[redacted]	261	PCB transformers < 50 ppm with non-TSCA PCB oil	04, 01P, 3T	Contains data in block 11and notation in block 29; waste profile sheet attached and test results
EC6377 EC6378	24040540 22	[redacted]	731, 261 (EC6377) 261 (EC6378)	PCB transformers, > 500 ppm (EC6377) PCB transformers, < 50 ppm (EC6378)	03, 01P, 3T (EC6377) 04, 01P, 3T (EC6378)	Manifest (IDs for all), DIS, and for EC6378: PCB process log, CD, and AS400 comment field with test data
EC6377	24040540 27j	[redacted]	731, 261	PCB transformer with oil > 500 ppm	03, 01P, 3T	Manifest with ID, OSD; PCB process log, CD, grid sheet, DAR
EC6377	Profile only 27j	[redacted]	731, 261	PCB transformer > 500 ppm oil	03, 01P, 3T	No test data
EB6790	21804796 27b	[redacted]	261	PCB potting compound (TSCA)	3T	Manifest with conc., ID, wts., OSD; CD, grid sheet, DIS initial and by process code
EB6790	Profile only 27b	[redacted]	261	PCB potting compound (TSCA)	3T	Specifies conc (50-100, same as load above), but no analytical
EC2075	22501158 27d	[redacted]	261	Soil with <1000 ppm PCBs (non TSCA)	3T	Manifest with conc (0-810 ppm), grid sheet, CD
EC2075	Profile only 27d	[redacted]	261	Soil with <1000 ppm PCBs (non TSCA)	3T	Profile only, conc of 0-810 in box 11, but no data
J36996	2501363 27a	[redacted]	261, 731	PCB contaminated liquid (RCRA)	01P	DIS, manifest, WTL o/s checklist, CD, XL PCB drum list
J36996	Profile only 27a	[redacted]	261, 731, 751	Lab analysis, PCB contaminated liquid (RCRA)	01P	No test data

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Notes for Table 12

1. *This table summarizes waste profiles and load paperwork (e.g., "daily jackets", containing incoming, processing, and outgoing documentation) reviewed by NEIC as part of the second phase of its CWM-KHF inspection.*
2. *Manifest numbers for specific loads reviewed by NEIC are listed here. "Profile only" is cited if a profile was reviewed. "NEIC Doc. #" refers to the unique NEIC document number assigned to the document or set of documents.*
3. *Waste Descriptions are taken from the profile or drum inventory sheet.*
4. *SeeTtable 10 for a complete list of CWM-KHF PCB process tracking codes.*
5. *Abbreviations for documents or information referenced are as follows:*
   DIS = drum inventory sheet
   ID = unique identification number
   o/s worksheet = off-site worksheet for loads going to Port Arthur
   wt. = weight
   WTL = waste transfer log
   CD = certificate of destruction (issued by Port Arthur); certificate of disposal (issued by CWM-KHF)
   DAR = drum analytical record
   PCB drum XL = spreadsheet of drums sent offsite from CWM-KHF to Port Arthur
   OSD = out-of-service date

NEIC conducted a review to spot check the accuracy of the data in the 2004 process tracking code log, and to determine if the load paperwork was consistent with regulatory/permit requirements. Specifically, NEIC performed the following:

- Profile process codes were compared to processing information in the actual waste loads, and to regulatory/permit requirements. For example, a PCB transformer requires draining and flushing (for at least 18 hours) prior to disposal pursuant to condition A.3 of the Attachment to the federal TSCA permit. NEIC sought to verify that this activity was represented in the profile process code.

- Waste profiles were reviewed to determine if they contained analytical data, notably for less than 500 ppm wastes and less than 50 ppm wastes.

- The load processing paperwork was reviewed to determine if the activity was conducted in accordance with regulatory/permit requirements. For example, the PCB processing log was reviewed to determine if a PCB transformer had been flushed for at least 18 hours, and if the item was filled with solvent.

- In-process data such as drain/flush volumes from the processing documentation were compared to corresponding entries in the 2004 process tracking code log.

- Out-of-service dates, unique identification numbers, and weights from manifests or on internal documentation (typically the drum inventory sheet) were compared to data in the 2004 process tracking code log.

- Determined the presence of any discrepancy paperwork, and resolution of discrepancy

The following notable observations were made from the review:

- Weights reported in the annual document log are typically those provided by the generator. The physical dimensions of items processed at the PCB storage unit are measured, as indicated by notations on the drum inventory sheets.

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- The PCB tracking codes used for some manifest loads did not correspond to the conventions in Table 10 (for example, manifest load 24040540 was tracked as a "9D", but should have been a "9T"). However, the 9D process is equivalent to the 9T process.

- Items requiring flushing were flushed for approximately 24 hours. The flush volumes were the same as the original drain volumes for items first requiring draining.

- One packet (manifest 22083792 for profile F65673) contained paperwork to resolve a discrepancy between the profile information and the actual materials received. Specifically, several items received were empty, but the profile stated that the wastes should contain liquids (and thus require draining). The resolution of the discrepancy could be reconstructed from the paperwork.

- With one exception, PCB items for which NEIC reviewed both profile and internal processing information (i.e., daily jackets) were characterized by actual PCB concentrations. Generators such as [redacted] and [redacted] specified actual PCB concentrations on the manifest (or manifest continuation sheet) for loads sent to CWM-KHF. However, profile and daily jacket information for waste profile AJ9537 did not contain any analytical data for this waste, which the profile describes as "PCB transformer with oil (< 500 ppm)" from [redacted]

  NEIC has a general concern that certain generators sending PCB bearing wastes (those identified as TSCA and non-TSCA) may not be performing mandatory testing to determine the actual PCB concentrations. As a practice, CWM-KHF does not require (and, as a disposal facility, is not required per the TSCA regulations to determine) actual PCB concentration data from the generators. At the waste acceptance phase, CWM-KHF relies on the generator's waste profile sheet certification regarding the classification of a candidate waste. Regarding less than 50 ppm PCB wastes, profile comment language indicates that CWM-KHF requires a certification that the wastes originated from a non-TSCA source. NEIC did not however, observe any statements to this effect in the profiles or in other documents reviewed as part of the inspection.

  U.S. EPA Region 9 or NEIC may consider additional inquiry into this matter. If so, profiles and "daily jacket" information for 50 to 499 ppm PCB items could be requested from CWM-KHF to determine the general practices (e.g., is testing being conducted or not) for the TSCA waste-producing generators which send their wastes to CWM-KHF. Additionally, the specific certifications attesting to non-TSCA source (referenced in the profiles) of less than 50 ppm wastes could also be requested from CWM-KHF. **[AOC E]**

- Because CWM-KHF did not receive any PCB capacitors during 2004 according to the annual document log, no paperwork for specific loads of PCB capacitors was reviewed by NEIC. NEIC reviewed only one profile for capacitors, a < 50 ppm item. This profile does not include a field or notation to identify it as a "large" or PCB small capacitor. As noted above in this report, the exact management practices for PCB small capacitors are not clear to NEIC, based on the discussions with PCB storage unit technicians. Regarding tracking, Ms. Reddick stated to NEIC that the bulking of small capacitors for disposal is not tracked in the PCB tracking module. In addition, CWM-KHF does not

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have a PCB process tracking code for the handling of PCB capacitors other than disposal at Port Arthur (e.g., 26C).

Although small PCB capacitors are not subject to the recordkeeping requirements at 40 CFR § 761.180 (b), Records and Monitoring, the federal TSCA permit imposes specific disposal requirements for these items. U.S. EPA Region 9 and/or NEIC may seek to determine if CWM-KHF received small capacitors in 2004 (and other years), and how these units are managed – in the profiles, the databases, and in the field. **[AOC F]**

NEIC also compared PCB tank records to the PCB tank listing records from December 2004 to December 2005. The review indicated that the information was consistent between the two records.

With the exception of the two areas of concern discussed above, no areas of concern or noncompliance were identified from the data and document reviews.

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SUMMARY OF FINDINGS

NEIC identified the following areas of noncompliance and concern from on-site inspection observations, discussions with CWM-KHF personnel, and a review of records and documentation. Areas of concern are inspection observations of potential problems/activities that could impact the environment, result in future noncompliance with permit or regulatory requirements, and/or are areas associated with pollution prevention issues.

AREAS OF NONCOMPLIANCE

1. **40 CFR § 268.7(a)** – *A generator of hazardous waste must determine if the waste has to be treated before it can be land disposed. This is done by determining if the hazardous waste meets the treatment standards ...*

   As stated in the November 7, 1986 federal register [51 FR 40620] – *The agency is requiring that applicable Part 268, Subpart D treatment standards for a restricted waste be determined at the point of generation.*

   CWM-KHF failed to determine if the multi-source leachate (F039) from their landfills and surface impoundments meets the treatment standards at the point of generation.

   CWM-KHF failed to conduct an adequate determination of whether their leachate met the treatment standard for PCBs prior to disposal in their on-site surface impoundments. During Phase 1 of the NEIC investigation conducted in August 2005, it was found that the instrument used by CWM-KWF for PCB analyses did not achieve the required detection limit or accuracy to determine whether the concentration of PCBs in samples of leachate exceeded the appropriate limits.

2. **40 CFR § 268.3(a)** – *...no generator, transporter, or disposal facility shall in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with subpart D of this part, ...*

   CWM-KHF has conducted impermissible dilution as a substitute for adequate treatment of their leachate. Hazardous waste leachate (F039) is aggregated into open-topped tanks prior to being discharged to surface impoundments. Analytical records maintained by CWM-KHF showed that F039 leachate wastes that did not meet the treatment standards at the time of generation, were impermissibly diluted in the tanks prior to discharge to on-site surface impoundments.

   CWM-KHF has conducted impermissible dilution as a substitute for adequate treatment for hazardous waste generated by [redacted] that contains cyanide. CWM-KHF treated the wastewater treatment sludge from [redacted], which has been shown to contain cyanide, by stabilization. EPA considers stabilization of cyanide to be impermissible dilution. Stabilization reduces the leachability of

cyanide, but does not destroy it. The BDAT for cyanide is based on the performance of alkaline chlorination, which destroys the cyanide constituents.

3. **40 CFR § 268.4(b)** – *Evaporation of hazardous constituents as the principal means of treatment is not considered to be treatment for purposes of an exemption under this section.*

April 2002 analytical results for the skimmings from pond P-16 were above the treatment standards for the following organic constituents: acetone, ethylbenzene, toluene, xylenes, diethyl phthalate, and phenol. Pond P-16 is an on-site surface impoundment permitted to receive hazardous waste for evaporation, and is not allowed to receive any hazardous waste that does not meet the treatment standards. Additionally, there is a concern of releases to the environment through evaporation from the levels of organics present in the skimmings.

4. **40 CFR § 268.7(b)(1)** – *Treatment facilities must treat their wastes to meet the Universal Treatment Standards Specified in 40 CFR § 268.48*

> *(1) For wastes or contaminated soil with treatment standards expressed in the waste extract (TCLP), the owner or operator of the treatment facility must test an extract of the treatment residues, using test method 1311 (the Toxicity Characteristic Leaching Procedure, described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 as incorporated by reference in § 260.11 of this chapter) to assure that the treatment residues extract meet the applicable treatment standards.*

According to records provided to NEIC by CWM-KHF, the waste stream from [redacted] has failed to meet the UTS limits specified in 40 CFR § 268.48 2 out of 12 times tested. In addition, one out of the two waste loads sampled by NEIC in December of 2005 exceeded the UTS limits. Overall, including the NEIC results, the waste has failed to meet the UTS limits 3 out of 14 times sampled or 21.4 percent of the time.

5. **40 CFR § 268.7(b)(1)** – *Treatment Facilities must test their wastes according to the frequency specified in their waste analysis plans as required by 40 CFR 264.13 (for permitted TSDs) or 40 CFR 265.13 (for interim status facilities). Such testing must be performed as provided in paragraphs (b)(1), and (b)(2) and (b)(3) of this section.*

> *(1) For wastes or contaminated soil with treatment standards expressed in the waste extract (TCLP), the owner or operator of the treatment facility must test an extract of the treatment residues, using test method 1311 (the Toxicity Characteristic Leaching Procedure, described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 as incorporated by reference in § 260.11 of this chapter) to assure that the treatment residues extract meet the applicable treatment standards.*

The CWM-KHF laboratory uses Inductively Coupled Plasma Emission Spectrometry to analyze TCLP extracts to determine whether the waste treated on site meets the requirements of 40 CFR 268.48. Section 7.2.3.6 of SW-846 method 6010B, Inductively Coupled Plasma Emission Spectrometry, requires the laboratory to establish and verify an interelement spectral interference correction routine to be used

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during sample analysis. Section 3.1.6 of the method requires that the interference effects be evaluated for each individual instrument and to determine and document the interference for each analyte. According to Section 3.1.10, when interelement corrections are not used, verification of absence of interferences false positive, or false negative) is required. Section 2.2 of the method also requires the laboratory to perform background correction for trace element determinations. The CWM-KHF laboratory did not evaluate or correct for spectral interferences. This could result in both false positive or false negative results. In addition, the laboratory did not perform background corrections as required. This could also result in the reporting of false positive or negative results.

AREAS OF CONCERN

A. There is a concern that hazardous wastes, that do not meet the LDR treatment standards, may have been disposed in the landfills. After treating hazardous waste to meet RCRA treatment standards at the FSU, CWM-KHF only tests some of the loads for constituents of concern to determine if the LDR treatment standards have been met. Under CWM-KHF's stabilization treatment evaluation (STE) program, the post-treated loads are not sampled for a year once the wastestream has three consecutive passes for the treatment standards and becomes part of the STE program. NEIC selected wastestream loads that were under the STE program (and would not have normally been tested) to sample during the inspection. NEIC results for one of the loads selected were above the LDR treatment standards.

B. CWM-KHF did not modify the recipe for stabilization of the baghouse dust from [redacted] even though repeated previous failures of the LDR treatment standards were documented. Although the facility did achieve three successive passes with this recipe, the historical failures provide no assurance that the waste in fact met treatment standards for loads that were not tested.

C. Incoming waste is tested for several fingerprinting parameters including reactive cyanide and sulfide. To test for these two parameters, a CWM-KHF laboratory technician mixes a sample of the waste with water. A fixed amount of acid is then added. Test strips that indicate the presence of cyanide or sulfide are suspended above the mixture and a change in color noted by the technician. Since some of the waste received by CWM-KHF is very basic (high pH), the amount of acid added may not be adequate to volatilize reactive cyanide or sulfide that may be present in the waste. The pH of the solution should be measured after the addition of acid to ensure that the amount of acid added is adequate.

D. The CWM-KHF laboratory uses ASTM D93-79, Flash Point by Pensky-Martens closed Tester to test for ignitability. The standard used by the laboratory to check the performance of the method is para-xylene, which has a flash point of 81 °F. The laboratory analyzed the standard before each batch of samples but did not evaluate the result of the standard analysis. In some cases, the result for para-xylene was 100 °F, which is 19 °F higher than the certified value. This means that results reported for the associated sample batch may have been biased high. This bias could have caused CWM-KHF to designate waste that was ignitable to be incorrectly managed as non-ignitable waste. NEIC is awaiting additional information from the facility to determine the disposition of waste associated with the incorrect sample analysis.

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E. NEIC has a general concern that certain generators sending PCB bearing wastes (those identified as TSCA and non-TSCA) may not be performing mandatory testing to determine the actual PCB concentrations. As a practice, CWM-KHF does not require (and, as a disposal facility, is not required per the TSCA regulations to determine) actual PCB concentration data from the generators. At the waste acceptance phase, CWM-KHF relies on the generator's waste profile sheet certification regarding the classification of a candidate waste. Regarding less than 50 ppm PCB wastes, profile comment language indicates that CWM-KHF requires a certification that the wastes originated from a non-TSCA source. NEIC did not however, observe any statements to this effect in the profiles or in other documents reviewed as part of the inspection.

U.S. EPA Region 9 or NEIC may consider additional inquiry into this matter. If so, profiles and "daily jacket" information for 50 to 499 ppm PCB items could be requested from CWM-KHF to determine the general practices (e.g., is testing being conducted or not) for the TSCA waste-producing generators which send their wastes to CWM-KHF. Additionally, the specific certifications attesting to non-TSCA source (referenced in the profiles) of less than 50 ppm wastes could also be requested from CWM-KHF.

F. Based on discussions with PCB storage unit technicians, the exact management practices and classifications for PCB small capacitors are not clear to NEIC. Regarding tracking, the PCB Clerk (Ms. Tracy Reddick) stated to NEIC that the bulking of small capacitors for disposal is not tracked in the PCB tracking module. In addition, CWM-KHF does not have a PCB process tracking code for the handling of PCB capacitors other than disposal at Port Arthur (e.g., 26C).

Although PCB small capacitors are not subject to the record-keeping requirements at 40 CFR § 761.180(b), the federal TSCA permit imposes specific disposal requirements for these items. U.S. EPA Region 9 and/or NEIC may seek to determine if CWM-KHF received small capacitors in 2004 (and other years), and how these units are managed – in the profiles, the databases, and in the field.

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