

ENVIRONMENTAL JUSTICE REVIEW

ATTACHMENT 1

**The Kettleman Hills Facility
Chemical Waste Management, Inc.
35251 Old Skyline Road
Kettleman City, California 93239**

June 2013

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I. Summary

The Department of Toxic Substances Control (DTSC or Department) prepared this Environmental Justice Review to identify and address environmental justice concerns related to the Kettleman Hills Facility operated by Chemical Waste Management, Inc. (Applicant). The Environmental Justice Review also assesses the potential harmful offsite impacts from the facility as well as existing environmental burdens on the people in the community. Finally, this document reviews authoritative and voluntary actions taken by DTSC, local government, federal government, and the Applicant to address impacts on the people in the community from the facility or from the multiple impacts of other activities.

This review is informed by the policies set forth in Government Code section 11135, Public Resources Code sections 71110-71113, California Environmental Protection Agency (Cal/EPA) Environmental Justice Action Plan (2004), and DTSC's own policies for environmental justice. While this review examines the potential for current and future multiple impacts to the people in the communities near the facility, it is not prepared pursuant to the California Environmental Quality Act (CEQA), and may contain information and analysis that either differ from, or would not be required under CEQA. CEQA documents related to the Kettleman facility have been separately prepared by Kings County (the lead agency) and by DTSC as a responsible agency. Where relevant, the mitigation strategies required under CEQA are summarized, below.

DTSC acknowledges the multiple environmental pollution burdens borne by the Kettleman City community, and the presence of poverty, language barriers and other factors which tend to make those people vulnerable to the impacts of pollution. Based on an expanded public outreach effort in late 2012, the community identified air pollution and water quality as significant community concerns. The outreach effort and input received by DTSC identified siting of the facility in a low-income Latino community as an environmental justice concern. The siting of a facility is, by law, a local decision (in this case, a decision made by Kings County). Nevertheless, it is DTSC's responsibility to ensure the facility does not pose a health risk to the community, and operates within the requirements of its hazardous waste permit.

To address the issue of air pollution, the Applicant has agreed to an enforceable plan to reduce diesel truck emissions by:

1. prohibiting trucks with model year engine emission equivalents older than 2007 from making deliveries of hazardous waste loads to the facility; and

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2. prohibiting model year engine emissions equivalents older than 2010 from delivering to the facility beginning in 2018.

On the Applicant's consent, these truck limitations will be included as a permit condition. This plan will reduce the impact of diesel emissions of NO_x and PM₁₀ (particulate matter 10 micrometers in diameter and smaller). NO_x emissions could be reduced by as much as 165,000 pounds per year and PM₁₀ emissions by as much as 7,000 pounds per year in Kettleman City, Avenal and the San Joaquin Valley Air Basin.

To address the long-standing issue of water quality and the lack of a safe drinking water supply for Kettleman City residents, DTSC continues to work with the Department of Public Health (DPH), the State Water Resources Control Board (State Water Board) and the Central Valley Regional Water Quality Control Board (Regional Water Board). In October 2012, the State Water Board allocated \$2 million to assist DPH in providing drinking water to economically disadvantaged communities. These funds will support efforts to bring clean drinking water to Kettleman City.

II. Public policy basis for environmental justice consideration in the permitting process

Environmental justice is defined in California law (Government Code, section 65040.12) as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws and policies." Pursuant to Cal/EPA's Environmental Justice Action Plan, DTSC has integrated environmental justice into its mission and operations. DTSC defines environmental justice as "equal application of environmental protection for all communities and citizens **without regard** to race, national origin or income".

DTSC's commitment to environmental justice (EJ) is reflected in its EJ policy which states, in pertinent part, that DTSC will:

- Protect public health or the environment if a reasonable threat of serious harm exists based upon the best available science and other relevant information, even if absolute and undisputed scientific evidence is not available to assess the exact nature and extent of risk.
- Consider regional impacts of our decisions and activities, utilizing Geographic Information System (GIS), census, and other demographic data to the extent feasible to meet Public Participation and CEQA obligations.
- Ensure all rulemaking proposals, notices and educational efforts address associated environmental justice issues.

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- Characterize areas with demographic data surrounding sites and facilities where contamination may have migrated offsite; evaluate potential exposures to sensitive receptors, such as children; and minimize potential cumulative impacts from facilities and sites on community health and the environment by significantly reducing exposure risks from individual sites.
- Work with the Office of the Secretary and the California Environmental Protection Agency (Cal EPA) boards, departments and office to promote implementation of policies and procedures that ensure low-income communities and/or communities with minority populations have access to environmental and health-related information utilized in making project determinations. This will include providing the information in appropriate languages, based on needs assessments, and encouraging early and continuous public involvement.
- Work with EJ stakeholders to develop cross-media and cross-agency approaches to community concerns.

DTSC, along with the other boards, departments, and office within Cal EPA worked with the Office of the Secretary in the development of the Cal EPA Environmental Justice Action Plan, which was released in October 2004. The EJ Plan outlines the steps for Cal EPA and its Boards, Departments, and Offices to take to begin addressing complex EJ issues.

Cumulative impacts as used to address EJ issues in the Plan, is defined by the Cal EPA:

Cumulative impacts means exposures, public health or environmental effects from the combined emissions and discharges, in a geographic area, including environmental pollution from all sources, whether single or multi-media, routinely, accidentally, or otherwise released. Impacts will take into account sensitive populations and socioeconomic factors, where applicable and to the extent data are available.

The Plan resulted in the development of the California Communities Environmental Health Screening Tool (CalEnviroScreen) by the Office of Environmental Health Hazard Assessment (OEHHA) under the direction of the office of Secretary. CalEnviroScreen presents the first comprehensive screening methodology to identify California communities that are disproportionately burdened by multiple sources of pollution. Although the tool's output should not be used as a focused risk assessment of a given community or site, the data behind the indicators present relevant information regarding

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multiple pollution burdens in the Kettleman City community and a number of significant sensitive population and socioeconomic factors, all of which inform DTSC's analysis.

III. Facility Description

The Kettleman Hills Facility comprises 1,600 acres, approximately 500 of which have been approved for hazardous and non-hazardous waste activity, and disposal of PCBs approved under the Toxic Substances Control Act. The facility is owned by Chemical Waste Management, Inc.

The facility is located 3.5 miles southwest of Kettleman City and 6.5 miles southeast of the city of Avenal. When fully operating, the facility employs approximately 65 workers.

The facility accepts solid, semi-solid, liquid hazardous and extremely hazardous wastes. The facility also accepts municipal waste.

IV. Community Description

Kettleman City, located in California's San Joaquin Valley, lies 28 miles southwest of Hanford and 54 miles southwest of Fresno.

Kettleman City is an unincorporated community with a population of 1,439. According to the U.S. Census Department's data for 2010, the racial makeup of the community was 96.1 percent Latino and 2.9 percent identified as White, and all other groups such as African Americans, Asians, Native Americans, and those identifying themselves as being of two races making up the remainder. This percentage is well above the percentages for Kings County (51.4%) and California (38.1%) for Latino populations (US Census Bureau 2011). The median age is 25.5 years old and the median income is \$25,988. About 34 percent of adults over the age of 25 hold a high school diploma, and about 4 percent hold a bachelor's degree.

The table below summarizes demographic data derived from the U.S. Census Department's Population, Housing, Social and Economic estimates for 2010, supplemented with economic data from the California Employment Development Department.

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Table - Kettleman City Population Details¹

Category	Count	Percent
Total Population	1,439	100%
Male	737	51.2
Female	702	48.8
Median Age	25.5	-
Household Size	4.11	-
White	478	33.2
African-American	4	0.3
Asian	1	0.1
Native American	8	0.6
Some Other Race/2 or More Races	61	4.2
Hispanic	1,383	96.1
Median Household Income	\$25,988	-
Median Home Value	\$105,730	-
Unemployment Rate (May 2012)	300	26.2
Less than 9 th grade education (age 25 or higher)	315	50.2
High School Graduate or Higher (age 25 or higher)	211	33.7
Bachelor's Degree or Higher (age 25 or higher)	23	3.7

¹ American Community Survey, 2006-2010 (U.S. Census Bureau), Labor Force Data for Sub-County Areas, (California EDD), 2012.

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V. Environmental Justice Concerns

US EPA uses the term ‘environmental justice concern’ to indicate the lack of fair treatment or exclusion of meaningful involvement of minority, low income, or indigenous populations or tribes in the development, implementation, and enforcement of environmental laws, regulations and policies. As such, DTSC has listened to concerns of disproportionate impacts on residents in the communities near the facility that already exist or may be created by this permit modification decision. DTSC has also listened to concerns that residents near the facility lack opportunities to meaningfully participate in the development of this permit modification decision.

A. Review EJ concerns related to the facility

DTSC’s outreach and listening efforts informed DTSC about the following concerns shared by people in the communities near the facility which could be a disproportionate impact to minorities (Latino/Hispanic) and/or people with low income:

1. The landfill was suspected of being a cause of an increase in birth defects;
2. The landfill’s operation was suspected of adding to the existing poor air quality; and
3. The landfill’s operation was suspected of causing offsite migration of toxic chemicals, including PCBs.

During a workshop held by DTSC and United States Environmental Protection Agency (US EPA) on November 17, 2011, members of the communities voiced concerns that Spanish speaking residents were being mistreated by government representatives based on the color of their skin. An allegation of racism during the Kings County Subsequent Environmental Impact Report (EIR) certification process was also mentioned at the workshop. These concerns would represent a lack of opportunities for minorities (Latino/Hispanic) and/or low income population to meaningfully participate in the certification process.

B. Review EJ concerns unrelated to the facility

The outreach and listening efforts of DTSC brought to light a number of

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concerns that were unrelated to the facility. These concerns included the following:

1. Poor drinking water quality due to the presence of benzene and arsenic, as well as poor taste and color;
2. Pesticides;
3. Access to health care and other services;
4. Birth defects and cancer rates;
5. Street conditions and poor lighting;
6. Quality of high school education and youth crime; and
7. Petroleum and hydraulic fracturing (“fracking”).

VI. Actions taken to assess harmful offsite impacts from the facility

A. Water

Groundwater below the Kettleman Hills facility is hydraulically isolated from any drinking water source and surface water is retained on site and allowed to evaporate. Because of these conditions, groundwater and surface water are not considered to be a possible exposure pathway for contaminants to reach nearby residents. (DTSC’s involvement in the effort to facilitate the acquisition of clean drinking water for the community is discussed later.) Nevertheless, DTSC reviews groundwater monitoring data on a quarterly basis.

B. Air Quality

The primary pathway for contamination from the facility to possibly reach nearby residents is the migration of hazardous substances through ambient air. DTSC requires air monitoring and health risk assessments.

The current permit requires an Ambient Air Monitoring Program (Program). The Program is designed to quantify the facility emissions of chemicals that would be expected to be found in air based on the profile of waste that the facility has accepted in the past. These chemicals include volatile organic compounds (VOCs), carbonyls, pesticides, PM₁₀ metals, and polychlorinated biphenyls (PCBs). Samples are collected every 12 days over a 24-hour period from 3 sampling locations - 1 upwind location and 2 downwind locations. The sampling and analysis data are reported quarterly by the facility. In April 2008, due to the lack of detections of PCBs and the limited

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detections of pesticides in air samples, DTSC authorized the suspension of analysis for those compounds from collected samples. However, in December 2010, DTSC directed the facility to resume analysis for pesticides and PCBs in response to community concerns. The proposed draft permit requires an additional sampling location that will quantify facility emissions when winds are blowing from the facility toward Kettleman City. Additionally, the draft permit requires longer sampling times for PCBs to detect even lower concentrations.

C. Health Risk Assessments

A 2011 health risk assessment was conducted in accordance with plans approved by DTSC and includes an inhalation health risk assessment and a residential health risk assessment. The inhalation health risk assessment evaluated the risk associated with a hypothetical worker working at the fence line. This assessment will be used to compare with subsequent annual health risk assessments to evaluate future risk levels at the fence line.

The residential health risk assessment evaluated the risk associated with residential areas in and around Kettleman City and indicated that facility emissions of hazardous chemicals would not pose a significant health risk to residential areas in and around Kettleman City.

Subsequent screening level health risk assessments prepared in 2012 and 2013 show similar conclusions.

D. Subsequent EIR Analyses of Impacts

The Subsequent EIR required extensive mitigation measures to reduce the level of significance for all but two of the significant impacts. The following two impacts remain significant and unavoidable from the proposed expansion:

- Air Quality
 - Periodic Construction and Operations Impacts
 - Long Term Operations Impacts
- Land Use
 - Compatibility with Kings County Regional Transportation Plan

E. Subsequent EIR Analyses of Cumulative Impacts

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The Subsequent EIR prepared for the Kings County Planning Agency identified and evaluated other sources of environmental or health burdens in the area of the facility which, considered with the proposed project, could contribute to significant cumulative impacts.

F. CEQA Analysis after May of 2009

Due to the serious level of local concerns, DTSC reviewed additional potential sources of environmental or health burdens from projects that were introduced after the preparation of the Recirculated Portions of Draft Subsequent Environmental Impact Report for the Kings County Community Development Agency dated May 2009.

After review of additional projects, DTSC prepared an Addendum to the Subsequent EIR and determined that the contributions to cumulative impacts from the additional projects would not result in new or substantially more severe cumulative impacts than those which were identified in the Subsequent EIR (DTSC 2012).

G. US EPA Air Emission Study on KHF Ponds

On November 12, 2010, the US EPA Office of Enforcement and Compliance Assurance, Air Enforcement Division, and EPA Region IX conducted an unannounced inspection at the Kettleman Hills Facility to determine if the facility emits significant concentrations of VOCs. US EPA conducted the inspection at and downwind of potential sources using photo-ionization detectors and an infrared gas imaging camera. The results of the inspection presented in US EPA's 2010 Inspection Report indicate that the Kettleman Hills Facility did not appear to be a significant source of the measured compounds at the time of inspection.

H. US EPA KHF PCB Congener Study

On December 2, 2008, in response to comments received from community stakeholders and environmental organizations regarding alleged adverse health impacts from the Kettleman Hills Facility on the residential community and ecosystem, US EPA directed the facility to conduct additional sampling of air, soil, and biota/vegetation samples for PCB congeners. The objective of the sampling was to "collect sufficient data to assess the magnitude of

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potential human and ecological impact to off-site receptors from PCB disposal activities at the Kettleman Hills Facility" (USEPA 2008).

The study evaluated the risk to the current land use scenario which included a rancher working next to the Kettleman Hills Facility. The study also evaluated the risks posed to hypothetical receptors, which are not based on any real scenario, including a resident rancher, a resident subsistence rancher, a resident non-farmer, and a nursing infant who reside at the Kettleman Hills Facility fence line. The results of the study indicate that human health risks at the facility boundary are below DTSC's point of departure for risk management decisions (1×10^{-6}) for the current land use scenario (a rancher) and exceed the point of departure for hypothetical receptors (residents or ranchers assumed to live at the facility boundary).

VII. Actions taken to address potential harmful offsite impacts from the facility

A. Air

The primary pathway for contamination from the facility to possibly reach nearby residents is the migration of hazardous substances through ambient air, as stated earlier. The current DTSC approved Hazardous Waste Facility Permit (Permit) requires the facility implement best practices to minimize the generation of dust and emissions of hazardous materials from site activities. DTSC accepted the facility's offer to be subject to measures intended to improve air quality by limiting access of older, more polluting trucks.

B. Offsite Releases of Toxic Chemicals

DTSC applied rigorous standards to ensure that the proposed landfill expansion is engineered to prevent failures or other causes of offsite releases. Additional containment system requirements for spills and additional procedures and notifications for spills have been added to the draft permit.

A comprehensive monitoring program is designed to detect releases to the environment. DTSC added permit conditions that increase PCB air sampling requirements, add an additional air monitoring station located between the landfills and Kettleman City, and add more frequent waste analysis for leachate.

C. Local ongoing concern about the safety of the facility

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The facility is required to hold a yearly informational meeting when it will share information about facility operations and monitoring results, and answer any questions from local residents and other stakeholders. To improve its awareness of facility operations DTSC added conditions that increase the facility's capacity reporting and spill reporting requirements.

D. Health concerns brought about the Cal EPA Kettleman City Community Exposure Assessment and the Birth Defect Study

1. Cal EPA Kettleman City Community Exposure Assessment

Simultaneous with the DPH Birth Defect Study, in January 2010, Governor Arnold Schwarzenegger directed Cal EPA to assess possible environmental contaminants in the air, groundwater and soil that may have contributed to the increase in birth defects in the Kettleman City community since 2007.

Cal EPA developed a comprehensive list of chemicals known to cause birth defects and other developmental effects and worked with the Department of Pesticide Regulation to identify pesticides that could cause birth defects. Cal EPA solicited public comments on the list of chemicals to test for and received requests to evaluate other potential health risks in addition to developmental effects. Through the course of public meetings and public comments, Cal EPA added 182 compounds to the list of chemicals for analysis.

The Cal EPA Assessment did not find any source of exposure that could likely be associated with birth defects. The investigation found levels of environmental pollutants in Kettleman City to be comparable to those found in other San Joaquin Valley communities and concluded that the environmental conditions in Kettleman City do not pose unique health risks to residents and could not explain any incidences of birth defects.

The study recommended follow up actions including the pursuit of a new drinking water source for Kettleman City, continued implementation of plans for statewide assessments of chlorpyrifos and diazinon and mitigation for methyl isothiocyanate, investigation of

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elevated benzene emissions from air stripping units at water treatment units, investigation of chlordane in the soil adjacent to a single home, and preparation of a written update to Kettleman City residents.

2. DPH Birth Defect Study

Kettleman City Community members had raised concerns about birth defects and questioned whether there was a link to a nearby hazardous waste landfill or other environmental exposures. In January 2010, Governor Arnold Schwarzenegger directed DPH to investigate an apparent increase in the number of infants born with birth defects after 2006 in Kettleman City. Kettleman City community members had raised concerns about birth defects and questioned whether there was a link to a nearby hazardous waste landfill or other environmental exposures. The objectives of the investigation were to evaluate the presence of known or suspected genetic, medical or pregnancy-related risk factors, the presence of known or suspected behavioral and lifestyle risk factors, and the potential for environmental or occupational exposures that may be associated with an increased risk of birth defects. The investigation was conducted in parallel with and informed by data gathered by the Cal EPA Kettleman City Community Exposure Assessment investigation (discussed above).

DPH's investigation did not find a specific cause or environmental exposure that would explain the increase in the number of children born with birth defects in Kettleman City. The conclusions of the investigation included:

- The number of children born with birth defects in the time period of investigation, 2007 to March 31, 2010, was in excess of what would be expected for the number of births in Kettleman City based on the historical pattern.
- Maternal medical, family, and pregnancy risk factors are unlikely to explain the increased numbers of birth defects seen from 2007 - 2010.
- None of the mothers interviewed used alcohol, drugs, or tobacco; therefore, these potential risk factors were not found to be a cause of these birth defects.

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- The observed birth defects did not represent a unique pattern nor were they all of the same type – characteristics that would be expected with a common underlying cause.
- No specific environmental exposure was identified as a likely cause of the increase in birth defects.
- Environmental concerns expressed by mothers reflect exposures relevant to Kettleman City residents.
- DPH supports the tentative plans of the U.S. Environmental Protection Agency to sample indoor dust for pesticides in a limited number of homes in Kettleman City.

DPH recommended continued monitoring of birth defects for the next few years.

VIII. Actions taken to provide transparency and meaningful community participation

Environmental justice requires not only fairness in the distribution of environmental and public health burdens and benefits, but also access to government's process for making decisions affecting environment and public health. DTSC is committed to keeping the Kettleman City community informed of facility activities and opportunities to be meaningfully involved in decision-making processes. From 1987 on, DTSC began public participation activities in support of the permitting activities and corrective action for this facility. The public outreach program for this site included a wide range of activities that are set forth in Section 4 of the attached Public Participation Plan.

Public Outreach

The application for the permit modification was submitted to DTSC by the facility on December 12, 2008. The facility provided public notice of the request as required by Title 22, section 66270.42(c)(2) on December 18, 2008, and provided notice of a public meeting to be held on January 15, 2009. The public notices were provided in English and Spanish. The facility reissued the public notice on January 14, 2009, as the original notice did not provide sufficient time for public comment. The reissued notice included the schedule for another public meeting to be held on February 10, 2009. The facility conducted both meetings at the Kettleman City Community Center.

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Additional outreach was provided in 2011; DTSC and US EPA mailed invitations to a Community Workshop and Meeting to provide information on health studies, the permit process, and past enforcement actions at the facility. The workshop was held on November 17, 2011, and was attended by over 60 members of the nearby communities, the facility, and other interested parties.

DTSC provided additional public outreach by providing information and soliciting public comments on cleanup activities. DTSC mailed fact sheets in English and Spanish in October 2010 to nearby residents and interested parties explaining the PCB contaminants found at the site, the order DTSC issued to clean up the site, and the staff contact information for questions or more information. DTSC mailed additional fact sheets in English and Spanish in September 2011 about the cleanup activities the facility conducted. The fact sheet also announced a 30-day public comment period to solicit input on DTSC's draft decision to accept the activities as a final cleanup remedy.

Cal EPA and DPH incorporated public participation and community input throughout the planning and implementation of the Kettleman City Community Exposure Assessment studies. Public meetings were held in Kettleman City in February, March, April, and June 2010 to discuss the investigation and the health concerns in the area. Cal EPA released their draft report in November 2010 and held a workshop in Kettleman City to discuss the draft report and receive public comments. Cal EPA also opened a 30-day public comment period on the draft report which ended in December 2010. Each of the meetings received extensive media coverage, and informational materials were prepared for the community in both English and Spanish.

In June of 2012, DTSC prepared and distributed 664 community surveys to Kettleman City residents and businesses to receive feedback about community interest and concerns regarding the facility. Six responses were received and analyzed. From June 14 – 15, 2012, DTSC met with representatives of Kings County, the Kettleman City Community Services District, other service agencies, business people, and area residents to provide DTSC Executive Staff with a summary of both general Kettleman City concerns and their views of DTSC and our community involvement work.

DTSC continues to post all fact sheets, proposed applications, and related permit modification documents on DTSC's public website.

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IX. Actions taken to assess environmental health conditions in the surrounding community

A. US EPA Kettleman City Indoor Pesticide Study

In light of Kettleman City's proximity to almond and pistachio orchards, US EPA conducted an indoor pesticide study. In March and July of 2011 US EPA collected samples from inside a small number of Kettleman City homes to determine whether residents are being exposed to agricultural pesticides in their homes. The results of the sampling indicate that residents are exposed to the pesticides but at levels that do not present a significant health risk concern.

B. California Communities Environmental Health Screening Tool (CalEnviroScreen)

CalEnviroScreen identifies which portions of the state have higher pollution burdens and vulnerabilities than other areas. It examines indicators related to exposures, environmental effects, sensitive populations, and socioeconomic factors. The Kettleman City census zip code is identified as in the top 10% highest scoring census zip codes in the state based on these indicators, which indicates a comparatively high level of pollution burden and vulnerability.

For the purposes of this analysis, we compared Kettleman City to two neighboring communities, Lemoore and San Miguel, examining the raw data identified by CalEnviroScreen for their respective pollution burden and population characteristics indicators. The table on the next page provides CalEnviroScreen data for the Kettleman City zip code, a nearby zip code in Kings County, and a nearby zip code in a community to the southwest of Kettleman City. The indicators show how residents of Kettleman City compare to the other communities across the 18 CalEnviroScreen indicators.

The pollution burden indicators show that residents of Kettleman City may experience comparatively higher impacts. Although some indicators are not present or show lower burdens, other indicators show high burdens. The ozone indicator shows that the portion of the daily maximum 8 hour ozone concentration over the federal standard is about 0.11. The average PM2.5 air pollution is 14.1 and exceeds US EPA's standard for ambient PM2.5 concentration. Use of pesticides filtered for hazard and volatility in the area is

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much higher than the two comparison zip codes, with 3,706.2 pounds reported. In addition, hazard-weighted pounds of chemicals from toxic releases are 39,120,229. Unlike the two comparison zip codes, CalEnviroScreen does not identify impacts from cleanup sites or groundwater threats for the Kettleman City zip code.

The population characteristics indicators show that residents may be more vulnerable to the effects of pollution. The educational attainment indicator shows that 57.2% of the population has less than a high school education. This percentage is significantly higher than the two comparison zip codes. The linguistic isolation indicator measures the percentage of households where no one speaks English “very well,” and identifies 23.6% of households in Kettleman City as in this category. This percentage is also significantly higher than the two other comparison zip codes. Kettleman City is also high on the tool’s measure of poverty, with 39.8% of the population living below twice the federal poverty level. The percent low birth weight in Kettleman City, 6.03%, is comparable to the two comparison zip codes. Finally, CalEnviroScreen identifies 96.27% of the population of Kettleman City as non-white or Hispanic/Latino, significantly higher than the two comparison zip codes.

The data from CalEnviroScreen are useful for understanding the multiple pollution sources present in the Kettleman City census zip code. They are also valuable in understanding how the zip code compares to other zip codes in the state. Finally, they provide a way to assess the community’s relative vulnerability to those pollution sources, particularly in light of emerging scientific research indicating that the relationship between pollutant exposure, stress, and health outcomes can vary based on the race and ethnicity of the population.

		Kettleman City (Kings County)	Lemoore (Kings County)	San Miguel (San Luis Obispo County)
Zip Code	Census Zip Code Tabulation Area	93239	93245	93451
Total Population	Total population in ZIP Code	1,688	37,412	3,779

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Pollution Burdens				
Ozone	Portion of daily maximum 8 hour Ozone concentration over federal standard	0.10503	0.14430	0.00176
PM2.5	Annual mean PM 2.5 concentrations	14.1	15.64	9.48
Diesel PM	Diesel PM emissions from on-road and non-road sources	3.29	5.04	0.291
Pesticides	Total pounds of selected active pesticide ingredients (filtered for hazard and volatility) used in production-agriculture per square mile in the ZIP Code	3,706.2	919.8	8.19
TRI	Total hazard-weighted pounds of chemicals released on-site to air or water from all facilities fully within or within 1 km of the ZIP Code	39,120,229	40,022	283,912
Traffic	Traffic density, in vehicle-kilometers per hour per road length, within 150 meters of the ZIP Code boundary	529.2	335.3	167.9
Cleanup Sites	Cleanup sites, sum of weighted EnviroStor cleanup sites within the ZIP Code	0	17	11
Groundwater Threats	Groundwater threats, sum of weighted GeoTracker leaking underground storage tank sites within the ZIP Code	0	232	64
Hazardous Waste	Sum of hazardous waste facilities and generators within the ZIP Code	12.15	1.1	0.5
Impaired Water Bodies	Summed number of pollutants across all impaired water bodies within the ZIP Code	0	5	9
Solid Waste	Sum of weighted solid waste sites and facilities (SWIS) within the ZIP Code	14	4	4
Population Characteristics				
Age	Percent of population under age 10 and over age 65	27.78	24.99	24.85

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Asthma	Age-adjusted rate of emergency department visits for asthma	26.84	47.11	63.12
Low Birth Weight	Percent low birth weight	6.03	6.33	5.57
Education	Percent of population over 25 with less than a high school education	57.2	16.5	21.9
Linguistic Isolation	Percent households in which no one 14 and over speaks English "very well" or speaks English only	23.6	5.3	NA
Poverty	Percent of population living below two times the federal poverty level	39.8	36.1	33.2
Race/Ethnicity	Percent of population that is non-white or Hispanic/Latino	96.27	54.71	42.6

X. Actions taken to address environmental health impact to the surrounding community for concerns unrelated to the facility

A. Benefits to Local Residents the Facility has agreed or is required to provide

- To pay \$159,000 for a county-wide pre-conception education program through the Kings County Department of Public Health.
- To pay \$50,000 to match a United States Department of Agriculture grant to the Kings Community Action Organization to build an Opportunity Center in Kettleman City. The Center houses a computer lab, after school tutoring, youth and adult job training, day and evening distance learning college classes, pregnant/parenting/teen support services, utility assistance, child care assistance programs, marriage classes, and a community garden.

Further, as a condition of receiving its conditional use permit from Kings County, facility operator Chemical Waste Management Inc., agreed to provide significant benefits to the local residents:

- To pay \$100,000 for a community health survey of Kettleman City.
- To pay \$552,300 to pay off the outstanding water service debts of the Kettleman City Community Services District.

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- To pay 10% (up to a maximum of \$150,000) toward construction of the Caltrans Safe Crossing Project for State Highway 41 – The funding will be used to acquire and install two electronic speed indication devices to be placed at opposite ends of the residential area of State Route 41.
- To provide US Department of Transportation Hazmat transportation placards with written definitions in English and Spanish and an informational presentation during its annual contingency plan meeting.
- To pay \$450,000 to the Reef Sunset School District for construction of a walking track, soccer field lighting, pavilion, and parking lot at the Kettleman City Elementary School.
- To provide annual community education about its contingency plan and assist the community in preparing their disaster plan.
- To provide an annual summary of air quality, water quality monitoring and compliance reports for the community.

B. Prevention of Pesticide Exposure Project

In 2011, US EPA implemented a Prevention of Pesticide Exposure Project to increase the knowledge in Kettleman City about potential health effects resulting from pesticide exposure and how women can protect themselves and their unborn children to avoid exposure. The project consisted of recruiting community women to meet with small groups of other women to deliver pesticide safety information and US EPA approved training materials. The project aimed to increase the knowledge on pesticide safety among women of childbearing age in the Kettleman City community and provide the Kettleman City community with information and engage them in practicing safety measures to prevent future cases of clefting and/or other teratogenic effects in the community.

C. Technical Assistance Services for Communities

The US EPA developed Technical Assistance Services for Communities (TASC) to provide educational and technical assistance from non-US EPA experts that help communities better understand the issues and be well informed while participating in the decision process. US EPA granted TASC assistance to the Kettleman City community to help answer questions about the environment and clearly explain the activities proposed or conducted in

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the area. The TASC contractor, Dr. Daniel Wartenberg, sent a series of memos to the community related to the health studies conducted by DPH and the environmental assessment conducted by Cal EPA.

D. Diesel Truck Emissions Grant

US EPA awarded a grant of \$25,000 to Greenaction for Health and Environmental Justice to implement the Kings County Diesel Education, Emissions Reduction and Environmental Health Project (DEEP). The goals of the project are to reduce diesel emissions impacting the air quality in Kettleman City and Avenal, and to create a replicable diesel education and emissions program model that can be spread to other San Joaquin Valley communities impacted by diesel pollution. US EPA lists the expected outcomes:

1. 1,000 Kettleman City and Avenal residents will be educated on diesel, air quality and health;
2. At least 75 truck and bus drivers will be educated about diesel health issues and the laws regarding idling of diesel vehicles;
3. At least 5 agreements will be signed by businesses that use diesel vehicles, pledging to educate truckers about reducing vehicle idling and obeying anti-idling laws;
4. One youth and one adult community member will complete US EPA's Diesel Emissions, Health and Air Quality training, participate in educational outreach programs to residents, monitor diesel vehicles for idling violations and help educate truck and bus drivers about idling laws;
5. School officials, school bus drivers, teachers, parents and students will receive education about health impacts and laws restricting school bus idling, and become involved with reducing diesel emissions;
6. Commercial truck drivers and companies will be educated about anti-idling laws and government grant programs that are available to help pay for diesel vehicle retrofits;
7. Substantial improvement in compliance with idling regulations through less idling of trucks and buses in targeted areas;
8. The San Joaquin Valley Air Pollution Control District will begin collaborating with Greenaction and community groups on diesel emissions education programs;

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9. A replicable and Valley-relevant DEEP model including a bilingual "How to Implement a Diesel Education and Emissions Reduction Program in Your Community" guide with fact sheets will be created; and
10. Greenaction will increase awareness of and compliance with anti-idling laws, and achieve a reduction in diesel emissions from reduced idling.

E. Plan for New Drinking Water Source

The drinking water in Kettleman City exceeds the safe drinking water standards for arsenic and benzene. DPH provided \$400,000 in grant funding from the Drinking Water State Revolving Fund to fund a feasibility study to evaluate the options for Kettleman City's drinking water problem. The study indicates that treatment of water from the California Aqueduct appears to be the most cost effective alternative for the community provided Kings County funds construction and operation and maintenance costs, and uninterrupted water deliveries can be secured from the California Aqueduct. The Drinking Water program is working with the Kettleman City Community Services District to fund construction costs of the surface water treatment project. DPH is working with the Reef-Sunset Unified School District on a feasibility study to estimate costs to connect the Kettleman City Elementary School with the surface water treatment project.

XI. Conclusion

DTSC's commitment to Environmental Justice is reflected in its EJ policy and by its actions, summarized below.

DTSC has implemented that EJ Policy by actively participating in the Cal EPA study of the possible connection between the landfill and an increase in birth defects. Additional air monitoring was added to provide early detection of any releases toward Kettleman City. DTSC included specific procedures and notifications in the permit in the event of spills.

DTSC used the databases in CalEnviroScreen to improve its understanding of the multiple burdens on people near the facility. DTSC used mapping utilities to identify projects near the surrounding communities that could add to the existing pollution burdens. DTSC analyzed the impacts those projects could add and compared that information with the findings of the SEIR.

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DTSC updated its Public Participation Plan to identify concerns and to refine its outreach techniques. Notices will be sent to communities through media that have been identified as effective by the update, such as email and public posting.

DTSC evaluated potential diesel emissions exposures to sensitive community members and reduced contributions by prohibiting older diesel trucks from entering the facility.

DTSC invoked enhanced public participation methods for this permit modification decision, resulting in additional outreach, more translation of documents, and a better understanding of the multiple burdens on the residents near the facility. DTSC identified the linguistic isolation in the communities and translated significant decision documents into Spanish.

DTSC has worked with sister state and local agencies to bring clean drinking water to Kettleman City. DTSC encouraged the facility to require trucks using the facility to have cleaner running engines, thereby decreasing harmful air emissions.

In summary, DTSC has taken meaningful steps to implement its Environmental Justice policy in the context of this permit modification decision process.

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