

FINDINGS OF FACT

FOR THE
CLASS 3 PERMIT MODIFICATION TO MODIFY
THE LANDFILL B-19 CLOSURE PLAN FOR
CHEMICAL WASTE MANAGEMENT, INCORPORATED,
KETTLEMAN HILLS FACILITY, KINGS COUNTY, CALIFORNIA

Prepared by

California Environmental Protection Agency
Department of Toxic Substances Control

Responsible Agency under the
California Environmental Quality Act

Prepared pursuant to:

Section 21081 et seq. of the California Public Resources Code and
Sections 15091 and 15093 of the State CEQA Guidelines

September 2007

Section 1. Introduction

The Findings of Fact contained in this document constitute the required findings pursuant to sections 15091 and 15093 of the State of California Environmental Quality Act (CEQA) Guidelines for the project under California Department of Toxic Substance Control (DTSC) review and reflects DTSC's independent judgment. This document incorporates by reference the following documents.

- Draft Subsequent Environmental Impact Report (DSEIR) for the B-19 Landfill Bioreactor Project, State Clearinghouse No. (SCH #) 2003091023, November 2004.
- Final Subsequent Environmental Impact Report (FSEIR) for the B-19 Landfill Bioreactor Project, SCH # 2003091023, May 2005.

California Environmental Quality Act (CEQA) Guidelines section 15091 (title 14, California Code of Regulations) and Public Resources Code, section 21081 require that a responsible agency adopt findings for each significant environmental impact disclosed in an Environmental Impact Report (EIR). Specifically, for each significant impact, the responsible agency must find that:

- Changes or alterations have been incorporated into the project to avoid or substantially lessen the significant environmental effects identified in the EIR;
- Such changes or alterations are within the responsibility and jurisdiction of another public agency and should be adopted by that agency; or
- Specific economic, social, legal, technological, or other considerations make the mitigation measures or alternatives identified in the EIR infeasible.

In addition to making a finding for each significant impact, if the responsible agency approves a project without mitigating all of the significant impacts, it must prepare a statement of overriding considerations in which it balances the benefits of the project against the unavoidable environmental risks. The statement of overriding considerations must explain the social, economic, or other reasons for approving the project despite its environmental impacts (title 14, California Code of Regulations, section 15093) and Public Resources Code, section 21081).

These CEQA documents, along with the administrative record for the Class 3 Permit Modification to Modify the Landfill B-19 Closure Plan are available for review at DTSC's file room located at 8800 Cal Center Drive, Sacramento, California 95826. Please contact Ruth Cayabyab at (916) 255-3601 to schedule an appointment.

Section 2. Project Summary

The project activity is the Class 3 permit modification for a revised Landfill Unit B-19 Closure Plan. The revised Landfill Unit B-19 Closure Plan will incorporate changes planned for the Class II/III waste operations and will revise the Part B Application of the Hazardous Waste Facility Permit. Specific sections that need to be changed in the Part B Application are Section 15.3(a)-(b) in Chapter 15.0 and Table 40-1 in Chapter 40.0.

The following are the primary objectives of the revised Landfill Unit B-19 Closure Plan:

1. Provide closure of the remaining Class I portion of Landfill Unit B-19 (Landfill B-19) at the Kettleman Hills Facility.
2. Amend the final closure grades of the entire B-19 unit by removing planned placement of Class II/III waste at the southern portion of Landfill B-19 and changing the Class II/III cover slope from 4:1 (horizontal to vertical) [H:V] to 2.5:1 (H:V) between drainage benches (effective 3:1 (H:V) when benches are included).
3. Address the potential impacts of converting a portion of the Class II/III waste to a bioreactor.
4. Amend the stability buttress configuration due to a revised waste fill configuration as discussed above.
5. Amend the proposed Class I waste prism closure schedule.
6. Present engineering analysis demonstrating that the landfill, with the proposed amendments, complies with requirements of the state regulations in 22 CCR and 23 CCR.

The operational and financial management of Landfill B-19 will be as a partially closed hazardous waste unit and an active solid waste unit; however, the Department of Toxic Substances Control (DTSC) retains its authority over the entire landfill and will be contacted for any changes to the closure of the Class II/III portion of the landfill and approval may be required for changes that may impact the Class I portion of the landfill.

The permitting decision made by the DTSC is predicated on the use of the Kings County FSEIR and DSEIR for the B-19 Landfill Bioreactor Project. Aside from the bioreactor, no new impacts have been found since then. No substantial change in standards, circumstances, or surrounding land uses has occurred. Therefore, based on a review of the prior environmental documents, the DTSC has found that these documents are adequate to address the modification of the Landfill Unit B-19 Closure Plan.

Site History/Background

The Kettleman Hills Facility (KHF) is part of Chemical Waste Management, Incorporated (CWMI), a major international waste handling corporation. CWMI operates KHF as a permitted hazardous waste treatment, storage, and disposal facility on 499 acres of a 1,600 acre parcel. KHF accepts virtually all solid, semisolid, and liquid hazardous waste. It excludes all biological agents or infectious wastes, radioactive materials, compressed gases, and explosives.

Landfill B-19 was permitted as an approximately 43-acre hazardous (Class I) landfill with approximately seven million cubic yards of total capacity. CWMI accepted Class I waste in Landfill B-19 from 1988 to 1992. In 1992, Landfill B-19 was placed into inactive status by CWMI and Landfill B-18 became the operating Class I waste management unit. A temporary cover was placed over the Class I waste in Landfill B-19. In 1997, CWMI converted the remaining unused portion of Landfill B-19 from a Class I waste management unit to a designated (Class II) and municipal solid (Class III) waste management unit, with a permit issued by the California Integrated Waste Management Board.

Section 3. Final Subsequent EIR (FSEIR)

The FSIER was issued on May 20, 2005 and certified on the Kings County Planning Commission on June 6, 2005. The FSEIR determined that the Landfill Bioreactor Project could have the following potentially significant environmental issues: geology and soils, hydrology and water quality, land use and planning, transportation and traffic, air quality, and hazards and hazardous materials.

While these issues were considered to be potentially significant, the FSEIR also determined that with the implementation of the proposed mitigation measures, no impacts would remain significant, except for air quality impact from cumulative PM10 and PM2.5 (particulate matter with aerodynamic diameters less than or equal to 10 and 2.5 micrometers, respectively). The FSIER determined that the project would have no significant environmental impacts on the following environmental resources: aesthetics, agricultural resources, biological resources, cultural resources, mineral resources, noise, population and housing, public services, recreation, and utilities and service systems. Air quality impacts from truck operations both project-specific and cumulative were the only significant and unavoidable adverse impacts identified for the project. DTSC concurs with the findings made by the Kings County Planning Commission relative to the FSEIR and DSEIR assessments of impacts associated with the activities outlined in the B-19 Bioreactor Project.

Section 4. Potential Environmental Effects that Can Be Mitigated to a Level of Insignificance

The following environmental resources have the potential to be affected by the DTSC Project activities and will be reduced to below the level of significance: geology and soils, hydrology and water quality, land use and planning, transportation and traffic, air quality affected by landfill gas, and hazards and hazardous materials.

Section 5. Significant Impacts

Air Quality-Landfill Gas

Significant Impact: Air emissions will change because of the proposed anaerobic landfill operations. The bioreactor unit will decompose municipal solid waste at a faster rate than the current unit because of the addition of moisture. The increased decomposition rate for the municipal solid waste in the bioreactor unit will result in a significant increase in the production rate of landfill gas. This increase in the rate of production of landfill gas will occur over a shorter timeframe compared to the current (dry) unit. However, the overall amount of landfill gas ultimately produced will be similar for the bioreactor unit and the current unit assuming that the current unit will undergo complete decomposition in the long-term.

Emissions of concern from landfills include methane and non-methane organic compounds (NMOC) which include volatile organic compounds (VOCs). Secondary pollutant emissions from landfill gas flares include undestroyed NMOC, VOCs, nitrogen oxides, sulfur oxides, carbon monoxide, and particulate matter less than 10 micrometers (PM10). The San Joaquin Valley Air Pollution Control District (SJVUAPCD) includes Kings County as a “non-attainment” area for ozone and PM10 for federal and state standards.

Under New Source Performance Standards (NSPS), Landfill B-19 will be required to install a landfill gas control and flare system when the landfill reaches a threshold emission concentration of 50 Mg/yr NMOC. Because of the accelerated landfill gas production for the bioreactor, KHF proposes to install a landfill gas control and flare system for the bioreactor project within the first year of bioreactor operations. This will include a gas control system for both the bioreactor unit and control (dry) unit. Simulations were done using a NSPS calculation and EPA model. The results show that under the current “dry cell” conditions, Landfill B-19 may not reach the NMOC of 50 Mg/yr threshold and would, therefore, not be required to install a gas control system. If no control system is required or installed, the landfill methane and NMOC emissions would enter the atmosphere.

Findings: After the gas control system and flare are installed, the control system and surface emissions of methane and NMOC from the landfill must be monitored to demonstrate compliance with title 40 of Code of Federal Regulations Part 60 Subpart WWW. Results of surface emission testing (methane gas) will be used to determine if additional migrations measures are required.

Facts: DTSC's project to modify the B-19 Closure Plan includes the potential to produce landfill gas and affect air quality. Potentially significant air quality impacts will be minimized by landfill design and operational procedures that comply with federal and state regulations and with permit conditions. A landfill gas collection and control system was previously analyzed as part of the original B19 design. DTSC's project is a component of the B-19 Bioreactor Project addressed in the FSIER. The elements included in the Project design would eliminate or substantially lessen the impact to below the level of significance. The facility currently is under a permit from the SJVUAPCD.

Geologic Resources and Soils

Significant Impact: Ground shaking due to seismic activity could result in the possibility of slope instability or failure and/or damage to other landfill structures and systems. The design of the landfill would take into account the peak horizontal ground acceleration (PHGA) from an earthquake on the North Dome Ramp Thrust fault segment (near-field) or San Andreas-slack Canyon-Cajon Pass fault (far-field).

Findings: Nonseismic geologic conditions will not result in significant impacts to the proposed B-19 Bioreactor Project. However, to assure that the potential impacts remain below a level of significance, a mitigation measure will be implemented.

To assure that the potential impacts remain below a level of significance, DTSC's project incorporates mitigation measure GS-MM.1. As part of the existing inspection and monitoring program established for the current Class I hazardous waste operations at the KHF, after occurrence of an earthquake of Magnitude (M) 5.0 or greater within 25 miles of the site or an M6.0 or greater earthquake within 50 miles of the site, a post-earthquake inspection of Project structures shall be conducted to determine the integrity of landfill structures and systems. In the event that damage to landfill structures has resulted, appropriate measures shall be initiated to correct earthquake-related damage. This mitigation measure was adopted by Kings County Planning Commission and is within the responsibility of the County and not the responsibility of DTSC.

Furthermore, slope stability evaluation demonstrated in the modified B-19 Closure Plan includes the effects of converting part of the landfill to a bioreactor unit. The data indicated that the proposed new landfill design (new final fill plan geometry and conversion of part of the landfill municipal solid waste to bioreactor waste) results in a stable configuration under both static and seismic loading conditions in compliance with applicable regulations.

Facts: DTSC's project to modify the B-19 Closure Plan includes the affects of potential seismic activity. As such, DTSC's project is a component of the B-19 Bioreactor Project addressed in the FSIER. Incorporation of the mitigation measure GS-MM.1 would eliminate or substantially lessen the impact to below the level of significance. This mitigation measure was adopted by Kings County Planning Commission and is within the responsibility of the County and not the responsibility of DTSC.

Hydrology and Water Quality

Significant Impact: Seepage of leachate might occur from the municipal waste portion of the landfill through vadose (unsaturated) zone to groundwater. Landfill gas migration might also enter into vadose zone, resulting in dissolution of trace gases into underlying groundwater.

Findings: The proposed B-19 Bioreactor Project will not result in significant impacts to groundwater or surface water quality due to the design of the proposed B-19 Landfill Project, which will assure that impacts to surface and groundwater resources from the proposed Landfill B-19 Project will remain below a level of significance.

To assure that the potential impacts remain below a level of significance, DTSC's project incorporates mitigation measure HW-MM.1. The liquid waste storage and injection system for the bioreactor will be checked each operating day to assure there are no leaks in the aboveground lines. Drainage structures will be inspected and maintained on a regular basis. Routine seeps from exposed side slopes will be detected by visual inspection and repaired. This mitigation measure was adopted by Kings County Planning Commission and is within the responsibility of the County and not the responsibility of DTSC.

Facts: DTSC's project to modify the B-19 Closure Plan includes the affects of potential for seepage from the municipal waste portion of the landfill. As such, DTSC's project is a component of the B-19 Bioreactor Project addressed in the FSIER. Incorporation of the mitigation measure HW-MM.1 would eliminate or substantially lessen the impact to below the level of significance. This mitigation measure was adopted by Kings County Planning Commission and is within the responsibility of the County and not the responsibility of DTSC.

Traffic and Transportation

Significant Impact: The proposed B-19 Bioreactor Project will have traffic volumes on the roadways resulting in level of service that ranges from "A" to "C," depending on the roadway. While the Kings County General Plan considers LOS "D" or better to be acceptable, Caltrans seeks to maintain LOS "C" or better on state highways.

Findings: Because the level of service will remain between “A” and “C,” the proposed B-19 Bioreactor Project will not result in a significant traffic impact. Level “C” meets the Kings County General Plan, the Regional Transportation Plan standards, and the Caltrans standard. Therefore, no traffic-related mitigation measures are required for the proposed B-19 Bioreactor Project or for cumulative traffic-related impacts.

However, to assure that the traffic levels remain below a level of significance, the following mitigation measure, TT-MM.1, will be implemented: KHF will track daily and record the number of waste transported trucks that go to the B-19 landfill. If the number through Kettleman City approaches the maximum allowable limit of 86 truck round-trips per day, some trucks will be rerouted to maintain the allowable limit of waste transport trucks. This mitigation measure was adopted by Kings County Planning Commission and is within the responsibility of the County and not the responsibility of DTSC.

Furthermore, transportation and traffic will not be impacted by the modified B-19 Closure Plan. Import of borrow soils is not necessary to implement closure of the hazardous waste portion of the landfill.

Facts: DTSC’s project to modify the B-19 Closure Plan will not affect transportation and traffic because import of borrow soils is not necessary to implement closure of the hazardous waste portion of the landfill. As such, DTSC’s project is not a component of the B-19 Bioreactor Project addressed in the FSIER. Incorporation of the mitigation measure TT-MM.1 for the municipal solid waste operations would eliminate or substantially lessen the impact to below the level of significance. This mitigation measure was adopted by Kings County Planning Commission and is within the responsibility of the County and not the responsibility of DTSC.

Land Use and Planning

Significant Impact: The proposed B-19 Bioreactor Project will require modification to the existing Conditional Use Permit to allow operation of the municipal solid waste bioreactor.

Findings: The proposed B-19 Bioreactor Project will require a modification to the existing conditional use permit. No specific mitigation measures are required for land use.

Facts: DTSC’s project to modify the B-19 Closure Plan does not require mitigation measures for land use and planning. The conditional use permit only affects the municipal solid waste portion of the landfill. The Conditional Use Permit is the responsibility of Kings County and not DTSC.

Hazards and Hazardous Materials

Significant Impact: The project is located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

Findings: The waste being delivered to Landfill B-19 will not be hazardous waste. Landfill B-19 is listed as a hazardous materials disposal site because it accepted hazardous waste up until November 1992.

The proposed B-19 Bioreactor Project will not create a substantial hazard to public health and safety; furthermore, the project will not create new or different hazards that could require specialized mitigation measures to prevent upset conditions, or new specialized response in the event of an upset condition. Potential health and safety concerns will be minimized by adherence to site procedures, federal and state regulations, and permit conditions for landfill design, operation, and closure/post-closure to a point where impacts are not significant. Thus, mitigation measures will not be required for this environmental issue.

Facts: DTSC's project to modify the B-19 Closure Plan does not require mitigation measures for hazards and hazardous materials. The unit stopped receiving hazardous waste in 1992. Although mitigation measures are not required, adherence to procedures, regulations, and permit conditions shall be necessary throughout Project operation, closure, and post-closure. These requirements are the responsibility of Kings County and not DTSC.

Section 7. Statement of Overriding Considerations

Introduction: This statement of overriding considerations presents DTSC's determination that the proposed B-19 bioreactor project's broader public and environmental health objectives outweigh the anticipated significant and unavoidable environmental project impacts identified in the air discussion below and in the FSEIR and DSEIR for truck operations air quality impacts. The B-19 bioreactor project site is included with the municipal landfill site plan revision to more efficiently address hazardous and non-hazardous municipal wastes respectively. Conversion of part of the B-19 area allows for more efficient and expedient closure of the hazardous waste unit.

Significant and Unavoidable Environmental Impacts from the Proposed Project: Significant and unavoidable impacts for the Project for air quality from truck operations was found. The County of Kings adopted a Statement of Overriding Considerations for air quality impacts.

Air Quality Impacts for Truck Operations that Remain Significant After Mitigation

Findings: Because the additional waste transport truck trips are required specifically for the bioreactor, fugitive emissions will increase. Fugitive emissions resulting from other landfill operations will not increase. The fugitive PM10 and PM2.5 emissions will result from the additional waste transport trucks on unpaved roads and from truck traffic on paved onsite and off site roadways.

The Project will contribute to the ongoing cumulative regional San Joaquin Valley Air Basin (SJVAB) air quality impacts associated with nitrogen oxide (NOx), reactive organic gases (ROG), particulate matter with aerodynamic diameters less than or equal to 10 and 2.5 micrometers (PM10 and PM2.5) because the entire SJVAB is designated as nonattainment of the National Ambient Air Quality Standards and California Ambient Air Quality Standards for ozone and PM10. In addition, the SJVAB is being recommended by the state as nonattainment for PM2.5. The project-specific and cumulative air quality impacts are considered to be significant and unavoidable even after implementation of feasible mitigation measures included in the project.

Facts: Mitigation measures were made a condition of the approval of the project (bioreactor) and a mitigation reporting/monitoring plan was adopted for this project, which DTSC adopts. DTSC's project is a component of the B-19 Bioreactor Project addressed in the FSEIR. Incorporation of the mitigation measures AQ-MM.1 would lessen the truck operations impacts; however, impacts would remain significant after mitigation. AQ-MM.1 mitigation measure was adopted by Kings County Planning Commission and is within the responsibility of the County and not the responsibility of DTSC. AQ-MM.1 mitigation measures include the following:

The following Project mitigations are included in the FSEIR to reduce air impacts to the extent possible.

-When new landfill equipment is purchased, new commercially available equipment will assure that emissions are as low as practically feasible.

-Onsite vehicles and equipment shall be properly maintained.

-Fugitive dust emissions shall be controlled to meet the requirements of the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) Regulation VIII, as applicable, to include, but not be limited to the following:

-Watering of active construction/disposal areas.

-Watering of unpaved roads.

-Track-out controls will be installed at the transition of dirt roads to paved roads that provide access to B-19.

-Vehicles and equipment shall be restricted to specific onsite roads.

-Vehicle speed on onsite roads to/from the landfill shall be limited to 15 miles per hour on paved and unpaved roads.

-For the additional two pieces of heavy-duty diesel-powered equipment required for the proposed Project, KHF will evaluate and implement a nitrogen oxide (NOx) reduction technology that is deemed to be the most appropriate in terms of effectiveness and reliability.

Mitigation measures are included in the FSEIR for operational truck emissions in order to reduce impacts as previously mentioned. However, recognizing that there are no feasible mitigation measures to reduce operational truck air quality impacts to a less than significant level for exhaust emissions and PM10 and PM2.5, DTSC has adopted a statement of overriding considerations.

Required Statement of Overriding Considerations

As mentioned, as Lead Agency, the Kings County Planning Commission, has adopted mitigation measures and a mitigation monitoring plan in the FSEIR to mitigate air quality impacts from truck operations. Those measures include the mitigation measures listed in the FSEIR, Appendix A . Kings County, as the lead agency for this project, will implement the B-19 Bioreactor Project with direct oversight from the LEA , Central Valley Water Board, and the SJUAPCD. As a Responsible Agency, DTSC finds that the benefits to the public health and safety in implementing the Class 3 Permit Modification for the Landfill Unit B-19 Closure Plan outweigh the project-specific and cumulative air quality impacts that will result from the bioreactor project because the bioreactor will more efficiently and quickly degrade wastes and facilitate the Class I facility closure.