

October 20, 2023

**IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT  
Authority to Construct and Permit to Operate**

Permit: #2625B-5

Source Name: Imperial Landfill, Inc.

Parent Company: Republic Services

Source Type: Municipal Solid Waste Landfill

Applied For: Landfill Expansion

Mailing Address: 104 E. Robinson Rd.  
Imperial, CA 92251

Project Location: 104 E. Robinson Rd.  
Imperial, CA 92251

Responsible Person: Peter Sterenberg,  
General Manager  
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Person in Charge at Location: Steven Hall  
Operations Supervisor  
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Permit Reviewer: Jesus Ramirez  
APC Division Manager

**Introduction**

SCS Engineers (SCS), on behalf of Republic Services (Republic), has submitted an application for a modification to Authority to Construct (ATC) and Permit to Operate (PTO) No. 2625B-4 for Imperial Landfill, Inc (ILI). Republic is requesting to change key permit conditions in order to ensure Imperial Landfill can stay in full compliance with the Authority to Construct and Permit to Operate conditions. The proposed changes are listed below with the Air District response following. In addition, the Air District will update the permit conditions to remove all references from 40 CFR 60, subpart WWW

due to this regulation no longer applies to Imperial Landfill, instead new conditions will be added to assure the permit is in compliance with 40 CFR 63, Subpart AAAA and the Methane Emissions from Municipal Solid Waste Landfills (LMR) regulation.

#### Proposed Permit Modifications;

1. Current permit limit (ATC and PTO 2625B-4 Air Emissions, LFG Flare): Sulfur oxide (Sox) emissions are 6.62 pounds per day (lb/day) or 1.2 tons per year (tpy) based on a concentration of total reduced sulfur (TRS) in landfill gas (LGF) of 46.9 parts per million by volume (ppmv).

Proposed change: Republic proposes to increase the inlet sulfur concentration in LFG at ILI to 150 ppmv, which is considered Best Available Control technology (BACT) in other Districts, including the South Coast Air Quality Management District (SCAQMD). At this higher TRS level, SOx emissions will be 21.19 lb/day or 3.81 tpy. At these increased emission levels, no additional rule or permit requirements are triggered. On October 11, 2023, Republic changed its request and proposed that the permit conditions limiting the flare SOx emissions hourly instead be limited on an annual basis (tons per year) as described in the engineering evaluation of 1.19 tons per year for the flare. This would provide some flexibility since the flare does not operate 24/7 while not changing the emissions that were previously estimated in the EIR.

District's response: In 2011, during the 89-acres expansion application, Republic supplied the SOx emission factor for the flare of 0.276 lb/hr. The ATC application was processed and the ATC was accepted by the public under these conditions. An annual SOx emissions limit would be in contradiction with the requirements of ICAPCD Rule 207, Section D.2 that requires a Permit to Operate shall include Daily Emission Limits which reflect applicable emission standards. Therefore, in recognition that the flare does not operate continuously, the District is proposing a daily limit of 6.62 lb/day of SOx.

2. Current permit limit (ATC and PTO 2625B-4, Condition VI.2): Volatile organic compound (VOC) destruction removal efficiency (DRE) of 99.2% is overly stringent.

Proposed change: Republic proposes a DRE of 98% or 20 ppmv outlet concentration as hexane at 3% oxygen, which is considered BACT, as well as meets the requirement under the New Source Performance Standard (NSPS). At this alternative DRE limit, VOC emissions will increase from 2.25 tpy to 2.28 for the flare, increasing site-wide VOC emissions from 2.41 tpy to 2.44 tpy. At these increased emission levels, no additional rule or permit requirements are triggered.

District's response: The District's Rule 207, New Source Review, defines BACT for any Emissions Unit as the more stringent of the most effective emission

Control Device, emission limit, or technique which has been achieved in practice for such class or category of Source. In 2011, as a part of the 89-acres expansion application, Republic proposed BACT for the control of VOCs from the landfill as a flare with a destruction efficiency of 99.2%. The ATC application was processed and the ATC was accepted by the public under these conditions. The efficiency of the flare has been proven to be achieved in practice several times through an annual source test; therefore, the District regrets to deny this request.

3. Current permit (ATC and PTO 2625B-4, Condition No. I.3) indicates that the ICAPCD may decline to renew the permit at the end of 2 years following date of issuance if progress in planning or construction cannot be demonstrated.

Proposed change: Republic requests that the ICAPCD note in the ATC that landfill construction in phases is excluded from requiring separate permit action each time. Note that facility emissions are already inclusive of all phases of construction.

District's response: Current Condition No. I.3 is meant to address the requirements of District Rule 205, Cancellation of Applications, that states that the APCO may cancel or decline to renew an ATC if the construction is not begun within two years from date of issuance or, if during the Construction, work is suspended for one year. Since Republic landfill has been constructed and it is currently operating, the District agrees with this request.

4. Current permit (ATC and PTO 2625B-4, Condition No. VI.1) requires that LFG emissions shall be monitored until production of 43,000 cubic feet per day is reached. Once the non-methane organic compound (NMC) emissions exceed 43,000 cubic feet per day, NMOC emissions shall be monitored directly. This condition is unclear as to references a production of 43,000 cubic feet per day and also NMOC emissions of 43,000 cubic feet per day.

Proposed change: Republic requests to remove this NMOC monitoring requirement as it is unnecessary, confusing, and not derived from any regulation.

District's response: the District agrees with this request.

5. Current permit limit (ATC and PTO 2625B-3 VII.4): Condition No. VII.4 requires that the 89-acre expansion LFG extraction and collection system shall be installed and maintained with a minimum 90% collection efficiency.

Proposed changes: Republic requests that Condition No. VII.4 and all references to collection efficiency in the ATC and permit review document be modified from 90% to 75%. At this proposed collection efficiency, VOC emissions will increase from 0.09 tpy to 0.24 tpy of surface LFG, and the NMOC emissions will increase from 0.23 tpy to 0.58 tpy for the surface LFG. After final closure, the collection efficiency may reach 90%. As shown, this change will result in a slight increase

in fugitive emissions for NMOCs and VOCs; however, the new emissions totals do not trigger additional requirements.

District's response: In 2011, as a part of the 89-acres expansion application, Republic proposed LFG extraction and collection system to be installed and maintained with a minimum 90% collection efficiency the control of VOCs from the landfill. The ATC application was processed and the ATC was accepted by the public under these conditions; therefore, the District regrets to deny this request.

6. Current permit limit (ATC and PTO 2625B-4, Condition No. VII.6) requires that the permittee must submit an application for permit modification when LFG reaches a production rate of 43.88 standard cubic feet per minute (scfm).

Proposed change: Republic is not clear what this condition is trying to achieve; therefore, Republic requests either clarification as to the source of the production rate and why reaching this rate would necessitate a permit revision or removal of this condition regarding modification. Ultimately, we will likely suggest that this requirement be removed as it is unnecessary, confusing, and not derived from any regulation.

District's response: the District agrees with this request.

7. Current permit (ATC and PTO 2625B-4, Section IX) summarizes conditions for mobile equipment performance and diesel engines.

Proposed change: Republic requests to remove mobile equipment under condition Nos. IX.1 through IX.3 because mobile equipment is not regulated under stationary source permits as the equipment is not stationary.

District response: the District agrees with this request.

8. Current permit (ATC and PTO 2625B-4, Condition X.5) requires the permittee to maintain records of all temporary and transitional roads and map details including build dates.

Proposed change: Republic requests that if fugitive dust emissions from roads are to be regulated, records of dust emissions using permanent road lengths, number of vehicle trips and AP-42 emission factors will be used. In addition, records and details of temporary and transitional roads will not be required; therefore, this condition can be removed.

District's response: the District agrees with this request.

9. Current permit (ATC and PTO 2625B-4, Condition XII.1) requires that quarterly surface emissions monitoring (SEM) exceedances be re-monitored within one week after initial exceedance event.

Proposed change: this requirement is not consistent with the NSPS or AB32 Landfill Methane Rule (LMR) that are enforced per federal and state regulations, respectively, and there is no regulatory justification for a requirement with only one re-monitoring event allowed. It would be very difficult to maintain a third and separate tracking system when two already are in place for ILI. Therefore, Republic requests that SEM requirements be consistent with the NSPS/LMR which require re-monitoring within 10 days of the initial event, a second 10-day re-monitoring event if there is a second exceedance and a 1-month follow-up for exceedances that cleared after the first or second 10-day re-monitoring event.

District response: the District agrees and will change Condition XII.1 to be consistent with the NSPS/LMR.

10. Current permit (ATC and PTO 2625B-4, Condition XIII.6) requires total municipal solid waste residue waste received at the landfill to be submitted annually.

Proposed change: Republic requests clarification as to the definition of solid waste residue.

District's response: from U.S. EPA website: Municipal Solid Waste (MSW)—more commonly known as trash or garbage—consists of everyday items we use and then throw away, such as product packaging, grass clippings, furniture, clothing, bottles, food scraps, newspapers, appliances, paint, and batteries. This comes from our homes, schools, hospitals, and businesses.

11. Current permit (ATC and PTO 2625B-4, Condition XIII.9) requires logs to be maintained containing the following information:

- a. The number of daily on-site mechanic truck miles traveled;
- b. The number of collection truck, transfer truck, and pickup truck (loaded weight of 2.8 tons or less) waste deliveries;
- c. Earthmoving and landfill cover activities daily tons of soil moved.
- d. Earthmoving and landfill cover scraper daily operation hours.

Proposed change: it is unclear as to the necessity and benefit of maintaining a log for the activities listed above. ILI will be maintaining records for fugitive dust emissions; therefore, it is not clear why specific logs for the activities above are required. As such, Republic requests that this condition be revised to note that records must be maintained and made available to verify daily limits have not been exceeded.

District response: The District agrees with this request.

12. Current permit (ATC and PTO 2625B-4, Section XVI) summarizes conditions of traffic at ILI.

Proposed changes: if the potential to emit (PTE) remains below the limits per the application, then the number, type, mileage, volumes, etc. should not be restricted. ILI could operate in any configuration as long as it remains below the PTE. Republic requests that the traffic conditions in Section XVI be removed.

At the time of the draft ATC, the new entrance at ILI was not complete but has since been completed. Therefore, Republic requests to modify the road lengths as follows for purposes of PTE:

Section A = 1,439.0 feet or 0.273 miles (currently in draft as 0.3 miles)  
Section B = 2,312.15 feet or 0.424 miles (currently in draft as 0.405 miles)  
Section C = 2180.16 feet or 0.412 miles (currently in draft as 0.38 miles)

Republic also requests that employee traffic not be included in the above road length miles as they will be restricted upon entrance. Please note that the need to modify the road lengths only emphasizes the changing conditions at a landfill and restricting lengths and vehicle trips will result in multiple modifications to the ATC.

District's response: the District agrees with this request.

13. Current permit (ATC and PTO 2625B-4, Equipment List): The equipment list in the ATC includes a number of equipment that are not subject to permitting in the ICAPCD.

Proposed change: Therefore, Republic requests removal of the equipment that are not subject to air permitting or a condition be added to this list that notes that the equipment is not subject to enforcement. In addition, Republic request that the equipment not subject can be modified or changed without a permit modification.

District's response: the District agrees with this request and will remove dedicated mobile equipment from Equipment List.

### **Source Description**

The Facility began operations in 1971 and last had their capacity increased by the California Integrated Was Management Board (CIWMB) in 1999. The Facility is located in the City of Imperial, approximately 0.5 miles west of Highway 111 and 5.6 miles north of I-8. The surrounding land uses are agricultural and residential, while the nearest residential receptor is located an estimated 200 feet to the south of the site across East Robinson Road. The Facility is made up of a 42-acre closed landfill section and a 31-

acre closed landfill section. The 31 Acre closed landfill section was filled to its capacity and capped in 2003. An 89-acre landfill section was added to the Facility in 2012 and the maximum daily waste acceptance rate was increased from 1,135 to 1,700 tpd. The construction was completed in 2012, with the new landfill sector accepting waste until at least 2034.

Imperial is a regional municipal solid waste disposal facility. It presently incorporates a state-of-the art landfill that serves Imperial County and surrounding communities. Limited amounts of acceptable wastes may also be received from locations outside the county, such as the area of Borrego Springs. Imperial accepts residential wastes, commercial wastes, construction debris, industrial special wastes and other acceptable non-hazardous wastes from the area it serves. Landfill emissions are expected from both non-fugitive sources and fugitive sources.

#### *Non-Fugitive Sources-Landfill Gas*

Landfills produce non-methane organic compounds (NMOCs) emissions, volatile organic compounds (VOCs), and hazardous air pollutants (HAPs), which are generated by the microbial degradation of buried refuse. Although these types of emissions are generally considered fugitive, on October 21, 1994, EPA policy memorandum indicated that landfill emissions which were reasonably collectable are to be considered non-fugitive regardless of whether a gas system was in place.

The concentration of methane gas must not exceed the lower explosive limit (LEL) at the facility property boundary or 25% of LEL in on-site buildings and structures. The installed flare station controls landfill gas (LFG), in particular methane and NMOC, but creates emissions from flare combustion. The LFG extraction system serves the 31 acre parcel. Additionally, trace gases are being destroyed, which could otherwise present adverse acute and chronic exposure. After collection, the LFG is burned off at the flare station. The flare is a 600 SCFM (16,392,600 BTU/hr maximum) enclosed ground flare, and the manufacturer of the unit is the John Zink Company.

The new 89-acre landfill section was added to the Facility and the increased materials placement resulted in an increase of landfill gas production.

#### *Other Non-Fugitive Sources*

There is one 1,000 gallon diesel storage tank and one 1,000 gallon waste oil storage tank located in the site. The tanks generate VOC emissions and insignificant quantities of HAPs during on-site storage and dispensing activities. ICAPCD Rule 202.E.8.c exempts these tanks from permitting requirements.

#### *Fugitive Sources*

Waste covering at the landfill face is accomplished daily with a roll-out canvas that covers the working face. This action complies with state law that requires daily solid

waste covering. A final covering with dirt takes place after a week. Fugitive dust is produced from quarrying the borrowing soil, actual waste disposal, waste compaction, and cover application and haul road activities. Paved/Unpaved roadways used by refuse hauling vehicles and other on-site vehicles generate fugitive particulate (PM) dust emissions. Construction activities, including heavy equipment traffic on unpaved roadways and landfill surfaces, generate PM dust emissions. Imperial continues with the waste covering strategy for the 89-acres expansion. An increase of PM dust emissions is expected from an increase of dirt moving activities and road traffic.

The 31-acres covered landfill has had 10 LFG monitoring wells installed. LFG emissions containing NMOCs, VOCs, and HAPs are generated by the microbial degradation of buried refuse. The fugitive portion of the LFG is currently 25% of the total LFG produced. Leachate collection, storage, and re-circulation generate VOCs and HAPs. The leachate is generated by precipitation or other moisture that percolates through the refuse mass and is collected by a subsurface leachate recovery system. The leachate is collected in underground sumps, pumped into a water truck, and is spread over the refuse mass in lined disposal cells for dust control.

The landfill may conduct disposal operations of non-friable asbestos-containing waste. The asbestos waste is delivered to the landfill, in accordance with applicable regulations. No emissions of asbestos are anticipated to occur due to the non-friable nature of the asbestos-containing material.

Further, the maximum daily waste acceptance rate was increase to 1,700 tpd in 2012. The 42 acre landfill was closed and covered around this time. The maximum daily waste acceptance rate may eventually peak at 3,252 tpd in the year 2034, which will require an additional review.

### *Control Equipment*

The Facility has systems in place that collect and flare the majority of the generated landfill gas. The collection system consists of a series of vertical wells, connection piping, headers, and blowers (which place the wells under vacuum) for the withdrawal of the gases from the landfill. It is assumed that a minute fraction of landfill gas migrates to the surface of the landfill and escapes directly to the atmosphere. The Facility implements various operational practices in order to minimize surface emissions, including the use of sufficient cover and the repair of cracks, fissures, and settling. The effectiveness of these measures is verified through the results of quarterly surface emission monitoring.

Imperial Landfill has an extensive environmental monitoring system within and surrounding the landfill to protect groundwater surface water and air quality. The monitoring systems include series of monitoring wells, sampling points, and gas probes that are designed to detect any potential migration of leachate, landfill gas, or other contaminants from the site. The gas collection and control system are required by law (NSPS Subpart AAAA), with stringent monitoring, maintenance, and reporting



requirements in place to ensure that the site operates properly and that human health and the environment are protected.

The 42-acre landfill gas collection system includes approximately 23 vertical landfill gas extraction wells, gas collection piping, a flare station, a condensate sump with pneumatic pump, and a condensate storage tank. The existing monitoring system includes landfill gas probes surrounding the landfill to monitor for subsurface landfill gas migration. The landfill gas collection system continues to be built, adding wells on an as-needed basis to ensure adequate collection as the landfill gas generation rate increases. The expansion of this collection system continued under the 89-acre landfill plan, including the installation of additional vertical wells, gas collection piping, condensate traps, and perimeter landfill gas probes. The collection system is constructed to ensure that methane concentrations at the landfill surface are less than 500 ppm above background, in compliance with the Facility's existing Air District operating permit. Monitoring reports throughout the lifetime of the collection system have demonstrated continuous compliance with this limit.

The 89 acres landfill gas extraction and collection system was designed and operated similar to the 42-acre system, with the exception that the applicant committed up to 90% collection efficiency. An additional proposal for installation and operation of this system will be required prior to landfill closure.

## **Air Emissions**

### **Non-Fugitive Source Units**

Non-fugitive source units include an LFG flare and a 49hp diesel fueled air compressor. Potential air emissions are calculated based on full operating schedule and capacity.

#### *LFG Flare*

Emission calculations consider potential variables. The site's potential emissions are based on John Zink Flare and blower design capacity and existing concentration emission limitations as well as factors supplied by applicant. The flare has a design capacity of 16.4MMBtu as well as a 600 SCFM blower fan.

The existing John Zink Flare has been operated below the permitted limit of 0.065lb/MMBtu NO<sub>x</sub> and 0.20 lb/MMBtu CO. These factors have been used to calculate future potential emissions. The applicant proposed a VOC destruction efficiency of 99.2% and has supplied emission factors for VOC (0.5204lb/hr), PM<sub>10</sub> (0.1927lb/hr), and SO<sub>x</sub> (0.276lb/hr).

Flare potential emissions are calculated using the listed emissions factors and an operating schedule of 24 hours per day, 90 days per quarter, and 360 days per year for the 16.4 MMBtu/hr flare. 5 days (120 hours) have been set aside for maintenance and start up/shut down emissions.

**16.4MMBtu Flare Emissions**

	<b>VOC</b>	<b>CO</b>	<b>NO<sub>x</sub></b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>
lb/hr	0.520	3.280	1.066	0.276	0.193
lb/day	12.49	78.72	25.58	6.62	4.62
ton/qtr	0.57	3.58	1.16	0.30	0.21
ton/yr	2.25	14.17	4.61	1.19	0.83

*Air Compressor*

The landfill also employs the use of a 49hp diesel fueled air compressor. This is made by Ingersoll Rand, model P185. The diesel engine is a John Deere, model 4042TF281. Emissions are calculated using USEPA Tier 4 emission factors and an operating schedule of 3 hours per day and 924 hours per year. 100% of NMHC are assumed VOC.

**49hp Compressor**

	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>SO<sub>x</sub></b>	<b>CO</b>	<b>PM<sub>10</sub></b>
lb/hr	0.038	0.567	0.192	0.443	0.024
lb/day	0.115	1.700	0.575	1.329	0.071
ton/qtr	0.004	0.065	0.022	0.051	0.003
ton/yr	0.018	0.262	0.089	0.205	0.011

*Green Waste*

Fugitive Emissions are expected from green waste receiving, sorting, screening and grinding. US AP-42, Section 11.19.2 values for screening are used to assess emissions for screening and Conveyor. Emissions are calculated assuming 325.17 tons per day of green waste processing.

**Green Waste Screening Emission Factors**

Green Waste Acceptance Rate (tons/day)	Screening Emission Factors (lb/ton)			Conveyor Transfer Point Emission Factors (lb/ton)		
	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
325.17	0.0250	0.0087	0.0006	0.0030	0.0011	0.0003

**Green Waste Screening**

(lb/day)			(tons/yr)		
TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
9.10	3.19	0.29	0.26	0.09	0.01

**Green Waste Shredding PM<sub>10</sub> Emissions**

Green Waste Acceptance Rate (tons/day)	PM <sub>10</sub> Emission Factor (lb/ton)	(lb/day)	(tons/yr)
325.17	0.02	5.85	0.17

### Green Waste Potential Emissions

	Emissions (lbs/day)			Emissions (tpy)		
	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
GW Screening and Shredding	14.96	9.04	6.15	0.43	0.26	0.18

### Fugitive Source Units

There are no expected changes in the exiting closed landfill surface section as a result of the 89-acres expansion landfill plan. The existing active landfill section will continue to accept and accumulate waste at an increasing rate. The change in daily and annual waste acceptance rates for the existing active landfill section will result in a change in surface LFG emissions and the active landfill section will reach capacity sooner under the 89-acres expansion landfill plan.

The 89-acres expansion landfill plan provides for an increase in the daily municipal solid waste, green waste, and CDI debris acceptance rates, and an expansion of the landfill area, resulting in longer operational life. Therefore, the 89-acres expansion landfill plan will result in an emissions rate increase.

### Surface LFG Emissions

As the landfill expands and ages, the volume of generated landfill gas will increase. The volume of gas generated under the 89-acres expansion project is estimated using LandGEM. US AP42 allows for VOC content at future waste sites to be calculated assuming 39% of total NMOC. The applicant has proposed an 90% LFG collection efficiency. Potential emissions have been calculated utilizing the highest surface LFG producing year for both the 89-acres expansion and the existing sections.

### Surface LFG Generation

	Total NMOC	Surface VOC	
	Tons/year	Lb/day	Tpy
Proposed (2043)	0.23	0.50	0.09
Existing (2014)	0.10	0.29	0.04

Based on LANGEM analysis, the applicant expect LFG production to top at 58.5 scfm. Emissions will be re-evaluated if LFG production reaches 75% of the estimated emissions, based on total LFG collected and flared.

### Traffic PM Emissions

Paved road emissions are calculated using supplied vehicle information and vehicle miles traveled. US EPA AP42 13.2.1 formula for paved roads is also used to calculate emission factors. 7.4 g/m<sup>2</sup> silt loading is used in emission factors formula. Potential emissions are calculated based on three different road segments. Segment A is paved and is 0.29 miles long, Segment B is 0.405 miles and is unpaved, and Segment C is unpaved and is 0.38 miles long. All vehicles will travel on paved Segment A, which is a total of 412 waste vehicles per day. The maximum waste delivered is expected to be 1,700. Daily vehicle miles are calculated using the projected total trips and the length of each section miles for both entering and exiting the facility.

Paved road emission factors are calculated using a mean vehicle weight of typical vehicular traffic. Collection trucks are 15 tons empty, 29 tons loaded. Transfer trucks are considered 16 tons empty, 39.5 tons loaded. Pickup trucks are 2.3 empty, 2.8 loaded. Employee vehicles are an average of 2.3 tons.

### Paved Section A-Waste Delivery

	Trips per Day	Section Miles	Vehicle Miles miles/day	Emission Factors lb/mile			days/yr
				TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	
collection truck	206	0.29	119.5	0.9	0.18	0.05	300
transfer truck	21	0.29	12.2	0.9	0.18	0.05	300
pickup truck	185	0.29	107.3	0.9	0.18	0.05	300

	Daily lb/day			Annual tons/yr		
	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
collection truck	109.7	21.9	5.39	16.5	3.29	0.81
transfer truck	11.2	2.2	0.55	1.7	0.34	0.08
pickup truck	98.5	19.7	4.84	14.8	2.96	0.73
	219.5	43.9	10.8	32.9	6.6	1.62

Employee traffic will also be exclusive to Segment A. A total of 20 daily vehicle trips are expected. A total of 300 days of operation per day are also considered for yearly emissions.

### Paved Section A-Employee Traffic

Trips per Day	Section Miles	Vehicle Miles (miles/day)	Paved Road Emission Factors (lb/mile)			Facility Operation (days/yr)
			TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	

20	0.3	11.60	0.92	0.18	0.05	300
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Daily Paved Road Emissions (lb/day)			Annual Paved Road Emissions (tons/yr)		
TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
10.65	2.13	0.52	1.60	0.32	0.08

Operations include the use of unpaved roads. The estimated vehicle miles traveled and vehicular characteristics have been supplied by applicant. Emission factors are calculated using USAEPA AP42 13.2.2 for unpaved roads. Source specific 3.9% silt content and a 4% surface moisture content are assumed in calculations. 84% control efficiency is assessed for unpaved roads controlled with chemical stabilizers and frequent watering.

Daily unpaved Segment B traffic will consist of 206 collection trucks and 21 transfer trucks.

#### Unpaved Roads Section B-Waste Delivery Trucks

	Trips per Day	Section Miles	Vehicle Miles miles/day	Emission Factors lb/mile			cF	Facility Operation days/yr
				TSP	PM <sub>10</sub>	PM <sub>2.5</sub>		
collection truck	206	0.405	166.9	5.53	1.69	0.17	84%	300
transfer truck	21	0.405	17.0	5.53	1.69	0.17	84%	300
								Total

	Daily Emissions lb/day			Annual Emissions tons/yr		
	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
collection truck	147.56	45.17	4.52	22.13	6.78	0.68
transfer truck	15.04	4.60	0.46	2.26	0.69	0.07
	162.60	49.78	4.98	24.39	7.47	0.75

Segment C will be unpaved and only light vehicle travel is expected, with 185 daily pick up trips. Pickup trucks traveling in this road will be at a maximum 2.8 tons loaded.

#### Unpaved Roads Section C-Pickup Trucks

	Truck Trips per Day	Distance miles	miles/day	Emission Factors (lb/mile)			cF	Facility Operation (days/yr)
				TSP	PM <sub>10</sub>	PM <sub>2.5</sub>		
pickup truck	185	0.38	140.6	1.98	0.48	0.05	84%	300

Daily Emissions (lb/day)			Annual Emissions (tons/yr)		
TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
44.48	10.87	1.09	6.67	1.63	0.16

Unpaved road emissions are also caused by a mechanic truck. This truck is assumed to operate a maximum of 6.7 miles per day and a total of 300 days per year. All unpaved road fugitive PM emissions are calculated to be reduced by 84%, as the applicant has proposed to apply soil stabilizers one or two times per month.

#### Mechanic Truck Unpaved Road Emissions

Vehicle Miles per day	Emission Factors (lb/mile)			cF	Facility Operation (days/yr)	Daily Emissions (lb/day)			Annual Emissions (tons/yr)		
	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>			TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
6.70	1.98	0.48	0.05	84%	300	2.12	0.52	0.05	0.32	0.08	0.01

PM dust emissions are generated from final cover construction, cell excavation, transportation, stockpiling, and disposition of soil cover material on the landfill surface. Construction equipment used in daily operations is another source of fugitive PM emissions. Vehicle miles traveled and equipment characteristics have been supplied by applicant. Emission factors are calculated using USAEPA AP42 11.9-1, grading activities. Potential emissions are calculated based on 255 tons per day of soil moved. A 50% control efficiency is assumed from frequent watering.

#### Earthmoving Activities Operating Parameters

Amount of Soil Moved (tons/day)	Watering Control Efficiency		Scraper Parameters		
	Scraper Travel	Loading and Unloading	Scraper Speed (miles/hr)	Operation	
				(hrs/day)	(days/yr)
255.0	50%	50%	5	6	300

### Earthmoving Activities Potential Emissions

Uncontrolled Emission Factors							Daily Emissions (lb/day)			Annual Emissions (tons/yr)		
Travel (lb/mile)		Removing Topsoil (lb/ton)	Unloading Topsoil (lb/ton)									
TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TSP	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
2.2	0.8	0.0	1.4E-03	1.4E-03	6.7E-04	1.0E-04	33.9	11.7	0.7	5.1	1.76	0.10

Stockpile erosion occurs due to the effects of wind on cover stockpiles and landfill surfaces with daily, intermediate, and/or final cover material. These are accounted for in landfill erosion calculations, which assume 0.5 acres of erosion from the existing landfill and 1.0 acres of erosion from the proposed landfill.

### Landfill Erosion Fugitive Dust

Scenario	Disturbed Landfill Area (acres)	Emission Factors (tons/acre/yr)			Watering Control Efficiency	Annual Emissions (tons/yr)		
		TSP	PM <sub>10</sub>	PM <sub>2.5</sub>		TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
Existing	0.5	0.38	0.19	0.03	25%	0.14	0.07	0.01
Proposed Landfill	1.0	0.38	0.19	0.03	25%	0.29	0.14	0.02

Landfill PM traffic emissions are calculated by including all landfill daily traffic, earthmoving and landfill erosion emissions. Yearly emissions are calculated using 300 days of operation.

### Road and Earthmoving Fugitive Emissions Lb/day and Ton/yr

	Fugitive PM lb/day			Fugitive PM tons/yr		
	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
Waste Delivery Section A Paved Road	219.46	43.89	10.77	32.92	6.58	1.62
Waste Delivery Section B Unpaved	162.60	49.78	4.98	24.39	7.47	0.75
Waste Delivery Section C Unpaved Roads	44.48	10.87	1.09	6.67	1.63	0.16
Employee Traffic Paved	10.65	2.13	0.52	1.60	0.32	0.08
Mechanic Truck Unpaved	2.12	0.52	0.05	0.32	0.08	0.01
Earthmoving	33.90	11.74	0.66	5.09	1.76	0.10
Landfill Erosion	2.34	1.17	0.18	0.43	0.21	0.03
<b>Total</b>	<b>475.56</b>	<b>120.11</b>	<b>18.25</b>	<b>71.41</b>	<b>18.05</b>	<b>2.74</b>

### Road and Earthmoving Emissions Ton/qtr

	ton/qtr		
	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
Waste Delivery Section A Paved Road	8.23	1.65	0.40
Waste Delivery Section B Unpaved	6.10	1.87	0.19
Waste Delivery Section C Unpaved Roads	1.67	0.41	0.04

Employee Traffic Paved	0.40	0.08	0.02
Mechanic Truck Unpaved	0.08	0.02	0.00
Earthmoving	1.27	0.44	0.02
Landfill Erosion	0.11	0.05	0.01
Total	17.85	4.51	0.69

### Borrowing Site PM Emissions

Borrowing soil is used for landfill cover soil. The operations associated with the cover material activities include one dozer to pick up the soil and one loader to load the truck. The truck then travels to and from the cover material source location to the landfill. Emission sources include the picking up of the soil and loading of the truck, windblown fugitive dust from disturbed soil, and fugitive dust emissions from travel to and from the cover material source location.

The mean vehicle weigh considered for emission factors is 26 tons. Emission factors are calculated using USAEPA AP42 11.9.1, Equation for Grading and 13.2.4, Drop Points. Source specific 3.9% silt content is utilized. 5 mph dozer speed and 4% surface moisture are assumed in calculations. Dust emissions are assumed for dust control with water suppression and soil stabilizers.

### Borrowing Activities Unpaved Road

Number of Truck Trips per Day	miles/trip	Vehicle Miles (miles/day)	Unpaved Road Emission Factors (lb/mile)			Facility Operation (days/yr)	Control Efficiency
			TSP	PM <sub>10</sub>	PM <sub>2.5</sub>		
21	0.4	8.4	5.9	1.44	0.14	300	84%

Daily Emissions (lb/day)			Annual Emissions (tons/yr)		
TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
7.92	1.94	0.19	1.19	0.29	0.03

Borrowing activities emissions are calculated USAP 42 Section 11.9 and 5.3 hours per day of operation for bulldozer.

### Borrowing Activities Earthmoving Emissions

Soil Moved tons/load	Soil Moved tons/day	Bulldozer/Loader Operation		Uncontrolled Emission Factors						
				Ripping Soil (lb/hr)			Loading Topsoil (lb/ton)			
		hrs/day	days/yr	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	



20	420.0	5.3	300	2.24	0.77	0.03	1.4E-03	6.7E-04	3.1E-02
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Daily Earthmoving Emissions (lb/day)			Annual Earthmoving Emissions (tons/yr)		
TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
59.9	20.9	1.4	9.0	3.1	0.2

### Borrowing Activities Windblown Fugitive Dust

Disturbed Landfill Area (acres)	Emission Factors (tons/acre/yr)			Annual Emissions (tons/yr)		
	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
10.0	0.38	0.19	2.9E-02	3.8	1.9	0.29

### Borrowing Emissions

	Daily Emissions (lb/day)			Annual Emissions (tons/yr)		
	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
Unpaved Road	7.92	1.94	0.19	1.19	0.29	0.03
Earthmoving	179.57	61.67	41.52	26.93	9.25	6.23
Surface Erosion	0.01	0.01	0.00	3.80	1.90	0.29
Total	187.50	63.61	41.72	31.92	11.44	6.54

### Facility Wide Potential Emissions

The combined potential daily, quarterly and yearly emissions make up the facility PTE.

### Facility Wide PM Emissions

	Daily Emissions (lb/day)			Annual Emissions (tons/yr)		
	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
Flare	4.62	4.62	4.62	083	0.83	0.83
Air Compressor	0.071	0.071	0.071	0.011	0.011	0.011
Borrowing	187.92	63.61	41.72	31.92	11.44	6.54
Road	475.56	120.11	18.25	71.41	18.05	2.74
Green Waste	14.96	9.04	6.15	0.43	0.26	0.18
Total	683.131	197.451	70.811	186.771	30.591	10.301

### Facility PTE

	VOC	NOx	SOx	CO	PM10	Pm2.5
lb/day	13.39	27.28	7.20	80.05	197.45	70.81
ton/qtr	0.596	1.22	0.32	3.63	7.40	2.65
ton/yr	2.39	4.87	1.28	14.38	30.59	10.30

### Offsets

The facilities potential emissions of pollutants specified in ICAPCD Rule 207 are below the offset thresholds, with the exception of fugitive PM10. Total PM10 emissions have a PTE of 197.45 lb/day. Excess emissions (daily PTE-137) are calculated for all PM10 emissions and every working day, which includes 75 days per quarter. At a 1.2 to 1 offsetting ratio, quarterly ERC requirements are 2.72 tons.

### PM10 Offset Calculations

lb/day	197.45
offsetting threshold	137
excess daily emissions	60.45
days per quarter	75
excess quarterly tons	2.27
offset ratio	1.2
ERCs required/qtr	2.72
ERCs required/yr	10.88

The Permittee is proposing to offset PM10 emissions by generating road-paving ERCs. These could take up to three years to complete. The Permittee has proposed to utilize agricultural ERCs for the first three years. Agricultural ERCs are acceptable at a 1.2:1 ratio until permit ERC are allocated. Yearly PM10 ERCs required are 10.88 tons per year.

### Rules and Regulations

The ICAPCD has the authority to adopt and enforce regulations dealing with controls for specific types of sources, emissions of hazardous air pollutants, and New Source Review (NSR). The ICAPCD Rules and Regulations are part of the State Implementation Plan (SIP) and are separately enforceable by U.S. EPA. The following section summarizes the ICAPCD Rules and Regulations which are applicable to the proposed project.

### ICAPCD Rule 109 Source Sampling

The Permittee may be required to provide and maintain such facilities as are necessary for sampling and testing. In the event of such requirements, the ICAPCD shall notify the applicant in writing of the required size, number and location of sampling ports; the size and location of the sampling platform; the access to the sampling platform, and the utilities for operating the sampling and testing equipment. The platform and access shall be constructed in accordance with the General Industry Safety Orders of the State of California. All samples collected to determine compliance of an emissions Source shall be collected in a manner specified or approved by the ICAPCD.

The facility has access to test wells, landfill surface, flare ports, as well as combustion stacks for compliance with this rule.

### **ICAPCD Rule 111 Equipment Breakdown**

The owner or operator shall notify the ICAPCD of any occurrence which constitutes a breakdown condition. The owner or operator within 10 days of the breakdown occurrence shall reveal the nature and extent of the event to the ICAPCD by submitting a written report which includes:

- a. A statement that the occurrence has been corrected, together with the date of correction and proof of compliance;
- b. A specific statement of the reason(s) or cause(s) from the occurrence sufficient to enable the ICAPCD to determine whether the occurrence was a breakdown condition;
- c. A description of the corrective measures undertaken and/or to be undertaken to avoid such an occurrence in the future;
- d. An estimate of the emissions caused by the occurrence; and
- e. Pictures of the equipment or controls which failed, if available.

A federally enforceable condition is included in condition VII.2 with reference to Rule 111 break down notifications. The facility has been operating in compliance with this Rule.

### **ICAPCD Rule 201 Permits Required**

Any person building, altering or replacing any equipment, the use of which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants, must first obtain authorization for such construction from the ICAPCD. An ATC shall remain in effect until the PTO for the equipment for which the application was filed is granted, denied, or canceled. A permit application for the proposed project was submitted to the ICAPCD to satisfy this Rule.

The applicant has held a valid PTO and current review is for modification of current permit and is therefore in compliance with this Rule.

### **ICAPCD Rule 206 Processing of Applications**

This Rule outlines steps taken to process both ministerial and discretionary projects. The current project has a daily potential to emit of 197.45 lbs/day of PM10 emission. According to Air District Rule 206.C.2, the current Project is considered a discretionary project and will require a 30 day public commenting period before an ATC is issued.

**ICAPCD Rule 207 New and Modified Stationary Source Review**

This Rule establishes preconstruction review requirements for new and modified stationary sources to ensure that the operation of sources does not interfere with the attainment or maintenance of ambient air quality standards and does not increase emissions in nonattainment areas. This rule includes offset and Best Available Control Technology (BACT) requirements.

**BACT**

An applicant shall provide BACT for any new or modified permit unit which emits, or has the potential to emit, 25 lbs/day or more of any nonattainment air pollutant or its precursors; or any new or modified permit unit with a potential to emit equal to or greater than the values in Table B-1:

**Table B-1: ICAPCD BACT Thresholds**

<b>Pollutant</b>	<b>BACT Threshold lbs/day</b>
Carbon Monoxide	550
Lead	3.3
Asbestos	0.04
Beryllium	0.0022
Mercury	0.55
Vinyl chloride	5.5
Fluoride	16
Sulfuric acid mist	38
Hydrogen sulfide	55
Total Reduced Sulfur	55

The Imperial County is in nonattainment for ozone and PM10. Ozone precursors include NOx and volatile organic compounds (VOCs). BACT thresholds are also specified for CO (attainment areas only) and select hazardous air pollutants (HAPs), with thresholds varying by pollutant.

Potential NOx emissions from the landfill flare reach 25.58 lb/day. Since the flare is itself BACT for LFG control, no additional technology will be required for this unit. Road fugitives from both paved and unpaved roads reach an excess of 25 lb/day. Road

pavement is considered a type of control, while Republic is proposing to continue and apply water to further control unpaved emissions. This constitutes best management practices and no further technology is required.

### *Offsets*

Per Rule 207, offsets are required by the ICAPCD for new or modified stationary source with a daily potential to emit equal or exceeding 137 lb/day for VOCs, NOx, PM10, CO, or sulfur oxides (SOx). Rule 207.C.2.g provides an exemption for CO emission offsets for sources located in attainment areas if the applicant demonstrates that Ambient Air Quality Standards (AAQS) for CO are not violated and the CO emission increases will not cause or contribute to a violation of an AAQS.

The maximum daily emissions of the pollutants specified in this rule are below the offset thresholds, with the exception of PM10. Total PM10 emissions have a PTE of 197.45 lb/day. Excess emissions are calculated for every working day, which includes 75 days per quarter. At a 1.2 to 1 offsetting ratio, quarterly ERC requirements are 2.72 tons.

#### **PM10 Offset Calculations**

lb/day	197.45
offsetting threshold	137
excess daily emissions	60.45
days per quarter	75
excess quarterly tons	2.27
offset ratio	1.2
ERCs required/qtr	2.72
ERCs required/yr	10.88

### **ICAPCD Rule 208 Permit to Operate**

A person shall not operate or use any equipment, the use of which may cause the issuance of air contaminants, or the use of which may reduce or control the issuance of air contaminants, without first obtaining a written PTO from ICAPCD, or except as provided in Rule 202. The equipment shall not be operated contrary to the conditions specified in the ATC and PTO which will be issued to Imperial Landfill. The permittee will comply with this rule by obtaining a permit from the ICAPCD in a timely manner and complying with the stated conditions.

The applicant has held a valid PTO and current review is for modification of current permit and is therefore in compliance with this Rule.

### **ICAPCD Rule 216 Construction or Reconstruction of Major Stationary Sources that Emit Hazardous Air Pollutants**

All owners and operators of stationary sources that emit Hazardous Air Pollutants (HAPs) are required to install best available control technology for toxics (T-BACT) to any constructed or reconstructed major source. A major source of HAPs is defined in this rule as “any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the PTE considering control, in the aggregate, 10 tons per year or more of HAPs or 25 tons per year or more of any combination of HAPs.” Combined flare, surface gas and combustion HAP emissions have been calculated to a potential of 2.67 tons per year. The HAP major source levels are not exceeded in the 89-acres expansion project and, therefore, T-BACT is not required for the 89-acres expansion project.

#### **ICAPCD Rule 400 Fuel Burning Equipment – Oxides of Nitrogen**

This rule applies to NO<sub>x</sub> emissions from new and existing stationary fuel burning equipment, limiting NO<sub>x</sub> emissions to 140 lb/hr. The equipment under review in this proposed project is a landfill gas-fire flare. The NO<sub>x</sub> emissions from this piece of equipment are well below the 140 lb/hr limit, thus compliance with this rule is wholly expected.

#### **ICAPCD Rule 401 Opacity of Emissions**

This rule applies to the discharge of pollutants into the atmosphere. It does not allow the discharge of any air contaminant (other than uncombined water vapor) for a period or periods aggregating more than three minutes in any one hour if the release or discharge is as dark or darker in shade as what is designated as No.1 on the Ringlemann Chart (20% Opacity). With proper operation of equipment, opacity of emissions is not expected to be observable.

#### **ICAPCD Rule 403 General Limitation on the Discharge of Air Contaminants**

This rule does not allow any single emission source to discharge particulate matter, including lead and lead compounds, in excess of the rates specified in Table 403-1 of the rule. In addition, it does not allow air contaminants in excess of the concentrations at standard conditions displayed in Table 403-2. A person is not allowed to discharge combustion air contaminants which exceed a concentration at the point of discharge of 0.2 grains per dry cubic foot of gas, calculated to 12 percent of carbon monoxide at standard conditions over 25 consecutive months. Finally, a person is not allowed to discharge combustion contaminants derived from fuel in excess of 10 pounds per hour from new or existing fuel burning equipment.

The limits in Table 403-2 apply to the landfill gas-fire flare. Combustion contaminant emissions from the aforementioned fuel burning equipment are each well below the respective grain loading limit.

#### **ICAPCD Rule 405 Sulfur Compounds Emissions Standards, Limitations and Prohibitions**

This rule limits the discharge into the atmosphere of sulfur compounds to 500 parts per million by volume (ppmv) of SO<sub>2</sub>, or 200 lbs/hr of SO<sub>2</sub> from any stationary fuel burning equipment. Emissions of sulfur dioxide from the combustion of flared landfill gas are expected to be well below 500 ppm. In addition, this rule includes sulfur compound content limits based on fuel type. Gaseous fuels are limited to a sulfur content of 50 grains per 100 cubic feet calculated as H<sub>2</sub>S at standard conditions. The sulfur content of the flared landfill gas is well below the 50 grains per 100 cubic feet limit. Thus, compliance with Air District Rule 405 is expected.

### **ICAPCD Rule 407 Nuisances**

This rule prohibits all persons from discharging in any Source emissions which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of the public or which cause or have a natural tendency to cause injury or damage to business or property. With proper operation of the equipment and implementation of the dust control plan, no nuisance is expected.

### **ICAPCD Rule 601/602 General, Episode Criteria Levels**

This rule is designed to prevent excessive buildup of air contaminants and to avoid the possibility of a catastrophe caused by toxic concentrations of air contaminants. Episode criteria levels are found in Rule 602. If a Stage 3 emergency episode occurred, the Facility will comply with any and all curtailments required by the Air District.

### **Regulation VIII – Fugitive Dust Rules, Rules 801-802, 804-805**

This series of rules aims to reduce the amount of PM<sub>10</sub> emitted from anthropogenic fugitive dust sources by requiring actions to prevent, reduce, or mitigate PM<sub>10</sub> emissions. These rules include opacity limits, control measure requirements, and dust control plan requirements that apply to activities at the Facility. The Facility is also required to comply with each condition specified in its existing Permit to Operate with the ICAPCD.

### **40 CFR Part 60, WWW**

ATC 2625A-4 includes conditions to comply with 40 CFR Part 60, Subpart WWW requirements. All references from 40 CFR Part 60, Subpart WWW were removed on the proposed ATC 2625A-5. This regulation no longer applies to Imperial Landfill as EPA clarified that the Landfill Methane Rule (LMR)[17 CCR95460-95476] once implemented via a state or federal plan supersedes subpart WWW.

### **AB 32 Landfill Methane Rule (LMR)[17 CCR95460-95476]**

AB32 LMR applies to active MSW landfills that received waste after January 1, 1977 and have a capacity greater than 450,000 tons of waste-in-place. Imperial Landfill is therefore subject to this rule and has opted to demonstrate compliance using a gas collection and control system with an enclosed flare. Imperial Landfill has already triggered the initial design plan and installation requirements for a gas collection and control system of the LMR; and, uses an enclosed flare to meet the control device requirements.

#### **40 CFR Part 63, Subpart AAAAA**

40 CFR Part 63, AAAAA, requires landfills with design capacity greater than 2.5 million mega-grams and that has estimated uncontrolled emissions equal or greater than 50 megagrams of NMOC per year, to install a landfill gas recovery and control system. Imperial Landfill is therefore subject to this requirement, as the landfill design capacity is greater than 2.5 million megagrams and the calculated maximum emissions rate exceeds 50 megagrams of NMOC per year. Air District Permit 2625B-5, requires that Imperial Landfill install and maintain a landfill gas recovery system and meet the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping, and reporting provisions of 40 CFR Part 63, AAAAA.



**AUTHORITY TO CONSTRUCT AND  
PERMIT TO OPERATE #2625B-5**

**ALLIED IMPERIAL LANDFILL  
104 EAST ROBINSON ROAD  
IMPERIAL, CA**

**LOCATION: DOGWOOD/ROBINSON HIGHWAY A CLASS III MUNICIPAL  
SOLID WASTE LANDFILL**

**DEFINITIONS**

**APCD:** Imperial County Air Pollution Control District.

**APCO:** Air Pollution Control Officer.

**ARB:** Air Resources Board of the State of California Environmental Protection Agency.

**BACT:** Best Available Control Technology. For landfill gas control of nonmethane organic compounds (NMOC), BACT is considered to include flaring with open or enclosed flare(s), internal combustion engines, boilers, gas turbines or other control technology with equivalent ability to destroy NMOC.

**GAS COLLECTION**

**SYSTEM: (GCS):** Consists of perforated pipe(s) buried within landfill waste for collecting landfill gas. The GCS may include connectors and headers. The GCS may or may not include the blower. A GCS system without a blower (gas mover) is a passive collection system.

**BLOWER:** A motor driven device that pumps landfill gas out of a header system and into flares or other combustion devices.

**CONTROL  
SYSTEM:**

Device(s) that control a regulated pollutant.

**DRE:** Destruction removal efficiency.

**EXISTING  
LANDFILL:**

The existing capped 31 acre landfill and 42 acre solid waste landfill.

**EXPANDED  
LANDFILL:**

New 89 acre solid waste landfill.

**EPA:** United States Environmental Protection Agency.

**FLARE:** A combustion device in the form of an open or enclosed stack designed to destroy landfill gas.

**FUGITIVE EMISSIONS:** Emissions that cannot reasonably pass through a stack, chimney, vent or other functionally equivalent opening.

**LFG:** Landfill gas.

**MSW:** Municipal solid waste calculated as average 70% biodegradable.

**NMOC:** Non-methane organic compounds expressed as hexane.

**PM10:** Particulate matter with aerodynamic diameter less than or equal to a nominal 10 micrometers.

**Regulated Pollutant:** A pollutant for which there is a federal, state or local standard.

**Stationary Source:** Any device or structure that emits a regulated pollutant and is stationary.

**Wet Suppression Techniques:** Preventive measures to minimize emissions from a surface using water, a water solution and chemical agent or micron-sized foam.

## **I. GENERAL**

1. The Landfill shall be constructed in compliance with the applications submitted to the Imperial County Air Pollution Control District (APCD), dated September 18, 1996, October 22, 2002, November 29<sup>th</sup>, 2005, September 23<sup>rd</sup>, 2010, and April 13, 2011.
2. This Authority to Construct Permit (Permit) does not authorize the emissions of air contaminants in excess of those allowed by EPA (Title 40 of the Code of Federal Regulations), the State of California (Division 26, Part 4, Chapter 3 of the Health and Safety Code), or the APCD (Rules and Regulations). The permit cannot be considered permission to violate existing laws, ordinances, regulations, rules or statutes of other governmental agencies.
3. The Permittee shall comply with all applicable AB 32 Landfill Methane Rule (LMR) requirements.
4. The landfill shall comply with all applicable 40 CFR 63, Subpart AAAAA requirements.

5. The APCO may temporarily suspend and, after a full review, cancel this Permit and construction would cease, if an activity conducted by the Permittee commits a direct air emission violation of local, state or federal air statutes. The Permit shall be reinstated upon resolution of the violation(s) to the satisfaction of the APCO.
6. No visible air contaminant, other than uncombined water vapor, shall be discharged to the atmosphere from a single source of emission which is 20% opacity or greater for a period or periods aggregating more than three minutes in any one hour.
7. No air contaminant shall be released into the atmosphere which causes a public nuisance.
8. The permittee shall provide training and maintain at least one employee certified by California Air Resources Board (CARB) as an opacity observer.

## **II. NOTIFICATION OF COMMENCEMENT OF CONSTRUCTION AND STARTUP**

1. The APCO shall be notified in advance and in writing of:
  - a The anticipated date of the first waste acceptance for the expanded landfills.
  - b The date of landfill gas collection system(s) construction.

## **III. RIGHT OF ENTRY**

1. The APCO or his representatives, upon presentation of credentials, shall be permitted to:
  - a Enter upon the premises, inspect and record information pertaining to records required by this Permit.
  - b Inspect equipment, operations and test methods required by this Permit.
  - c Test emissions from sources.

## **IV. TRANSFER OF OWNERSHIP**

1. In the event of a change in control or ownership of facilities to be constructed or modified, the approval for this Permit shall be binding on subsequent owners and operators. The Applicant shall notify subsequent owners and operators of the existence of this Permit and these Conditions by letter, a copy of which shall be forwarded to the APCD. The new owner(s) shall apply to the APCD for "change in ownership" within 30 days of the transfer of ownership.

## **V. RESERVED**

## **VI. LANDFILL GAS EMISSION LIMITS**

1. NMOC emissions equal to or exceeding 25 lbs/day shall be controlled using BACT (Best Available Control Technology).
2. A minimum of 99.2% destruction removal efficiency (DRE) of NMOC shall be achieved by the BACT system.  
DRE shall be determined from the following relationship:  

$$\text{DRE (\%)} = ((M_{\text{in}} - M_{\text{out}}) / M_{\text{in}}) \times 100$$

$$M_{\text{in}} = \text{mass on NMOC into flare}$$

$$M_{\text{out}} = \text{mass of NMOC out of flare}$$
 Note: NMOC is expressed as hexane at 3% oxygen
3. The flare emissions shall not exceed the following:
  - a. NO<sub>x</sub> =< 0.065 lbs/MM btu
  - b. CO =< 0.20 lbs/MM btu
  - c. VOC =< 0.52 lb/hr
  - d. SO<sub>x</sub> =< 6.62 lb/day
  - e. PM<sub>10</sub> =< 0.1927 lb/hr

## **VII. LANDFILL GAS CONTROL**

1. The Destruction Removal Efficiency for the flare shall be calculated using the NMOC concentration determination procedures and the equations in 40 CFR 63.1959 of the NESHAP.
2. A landfill gas recovery system shall be installed and maintained in the existing 31acre, existing (42 acre) and expansion (89 acre). The owner or operator must Install and maintain a collection and control system that captures the gas generated within the landfill as required by 40 CFR 63.1959(b)(2)(ii)(B).
3. The 89-acre expansion landfill gas extraction and collection system installed pursuant to condition VII.2 shall be installed and maintained with a minimum 90% collection efficiency.
4. The Permittee shall calculate total landfill gas produced at the site based on gas collected and flared.

## **VIII. OFFSETS**

1. The sum of nonattainment pollutant emissions (E) from all stationary vents exceeding 137 lbs/day shall be offset. Formula (1) shall be used to calculate the amount of emission offsets needed.  
 If  $E_{(\text{measured})} \geq 137 \text{ lbs/day}$   
 (1) Offsets =  $E_{(\text{measured})} \times (1.2)$

## **IX. DIESEL ENGINES**

1. Waste delivery shall be limited to 1,700 tons of waste per day.
2. Waste delivery operations, borrowing site operations, CDI operations and earthmoving operations shall be limited to 300 operating days per year.

#### **X. FUGITIVE DUST CONTROL**

1. The Permittee shall control fugitive emissions in accordance with Regulation VIII of the APCD.
2. The Permittee shall always have available the capability to maintain adequate water application for fugitive dust control.
3. For any temporary, unpaved roads used during the normal project operation for a period of 30 day or less, the landfill operator shall apply water as a dust suppressant sufficient to maintain normal surface moisture content above 4%.
4. For transitional roads that will be used over periods longer than 30 days, but which would periodically be moved or reconstructed, the landfill operator shall apply wet suppression techniques, including soil stabilizers, to minimize fugitive dust emissions.

#### **XI. PARTICULATE MONITORING PROGRAM**

1. The Permittee shall maintain the current ambient particulate and meteorological monitoring at the landfill site. The particulate monitoring program may be revised accordingly to provide for the necessary changes that may require to insure accuracy.

#### **XII. LANDFILL MONITORING**

1. The Permittee shall monitor and record methane concentrations quarterly with a portable flame ionization detector (FID) instrument sampling the air within a distance of three inches above the landfill surface. If these methane concentrations exceed 500 ppmv, repairs will be made to reduce the values below 500 ppmv and re-monitoring will be accomplished within 10 days. If the values are not reduced to below 500 ppmv, additional repairs will be made and re-monitoring will be performed within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header piper or control device, and a corresponding timeline for installation may be submitted to the ICAPCD for approval. Any location that initially showed an exceedance but has a methane concentration less than 500

ppmv at the 10-day re-monitoring shall be re-monitored 1 month from the initial exceedance.

2. The Permittee shall source test the flare stack annually upon receiving a source test plan approval from the APCD.
3. The Permittee shall meet the monitoring provisions in 40 CFR 63.1961.

### **XIII. REPORTING AND RECORD KEEPING**

1. Report to the APCD annually the placement of LFG collectors and their connections to the flare if applicable.
2. Notify the APCD of each emergency breakdown as specified in Rule 111 (Equipment Air pollution Control Breakdown).
3. When applicable, maintain onsite all records pertaining to LFG flow rate and emission rates. These records shall be made available to the APCD upon request.
4. Maintain onsite for 3 years all records of fugitive dust control applications (chemical suppressants). A dust control plan for normal watering activities shall be made available to the APCD. These records shall be made available to the APCD upon request.
5. Submit the following information annually
  - a. LFG flow rate from passive or negative systems.
  - b. Heating value of the LFG on wet and dry bases at the flare station inlet.
  - c. Total diesel fuel consumption.
  - d. Total MSW weight received at the landfill.
6. Submit the flare annual source test results to the APCO within 60 days of the test if applicable.
7. Submit a quarterly report containing particulate monitoring results, expressed as micrograms per cubic meter.
8. Permittee shall maintain and make available records to verify daily limits have not been exceeded.

### **XIV. ORGANIC VAPOR CONTROL**

1. Liquids collected from the landfill shall not be treated with open air stripping unless approved by the APCO.

2. Fuel storage tanks shall be designed, constructed, and installed in compliance with Rule 415.

#### **XV. Traffic**

1. Waste delivery shall be limited to the following:
  - a. 206 collection trucks,
  - b. 21 transfer trucks,
  - c. 185 pickup trucks.
2. Mechanic truck traffic shall be limited to 6.7 miles per day and 2,100 miles per year.
3. Earthmoving and landfill cover activities shall be limited to 255 tons of moved soil per day.
4. Earthmoving and landfill cover scrapers shall be limited to a combined 6 hours of daily operations.

#### **XVI. Offsets**

1. ERCs totaling 10.88 tons of PM10 shall be relinquished to the ICAPCD.
  - a. The Permittee may offset with Agricultural ERCs at 10.88 tons of Agricultural PM10 ERCs until permit PM10 ERCs can be obtained.

#### **Equipment List**

1. 31 Acre Inactive Capped Landfill w/ 1E6 tons of MSW in place.
2. 42 Acre Inactive Landfill 2.8 E6 tons of MSW capacity.
3. 89 Acre Expansion Landfill, 8.25 E6 tons of MSW capacity.
3. Gas Extraction Wells:
  1. 20 + Vertical LFG Gas Wells with distribution gas Lines in 31 Acre Inactive Landfill and connected to flare station.
4. Landfill Gas Flare Abatement System:
  1. 600 + SCFM Blower Fan
  2. 16.4 MMBtu/hr John Zink Flare 5' x 40' with 5 burners
  3. Condensate Organic Vapor Granulated Carbon Control Unit
  4. Gas flow, pressure and temperature gauges and recorders and flow controllers detection and fault notification.
5. Diesel fueled air compressor, powered by a 49hp John Deere model 4042TF281 engine. This engine is certified Tier 4.

#### **Recommendations:**

**2023 Permit Fees:**

162 Acre Municipal Solid Waste Landfill	\$ 5,312.50
Enclosed Flare, 16400Mbtu/hr	\$ 5,111.50
Air Compressor, 49 hp      150Mbtu/hr	\$ 515.00
<b>Total Fee</b>	<b>\$10,939.00 (PAID)</b>

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