Clark County
Environment & Sustainability

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PART 70 OPERATING PERMIT
TECHNICAL SUPPORT DOCUMENT
(STATEMENT of BASIS)

APPLICATION FOR:
Part 70 Renewal

SUBMITTED BY:
Republic Dumpco, Inc.

FOR:
Apex Regional Landfill

Source ID: 00395

LOCATION:
13550 N Las Vegas Blvd
Las Vegas, Nevada 89165

SIC codes 4953, "Refuse Systems"; 1442, "Construction Sand and Gravel";
& 4911, "Electrical Services"
NAICS codes 562212, "Solid Waste Landfill"; 212321, "Construction Sand and Gravel Mining";
& 221118, "Other Electrical Power Generation"

Application Received: January 10, 2023

TSD Date: June 16, 2026

EXECUTIVE SUMMARY

Apex Regional Landfill ("Apex") is a municipal solid waste landfill, a producer of construction sand and gravel, and a landfill gas to electrical energy (LFGTE) plant. The source is located in the Garnet Valley hydrographic basin 216, which is designated as attainment for all regulated air pollutants, and operates under Standard Industrial Classification (SIC) Code 4953: Refuse Systems, SIC 1442: Construction Sand and Gravel, SIC 4911: Electrical Services, North American Industrial Classification System (NAICS) Code 562212: Solid Waste Landfill, NAICS 212321: Construction Sand and Gravel Mining, and NAICS Code 221118: Other Electrical Power Generation.

Apex exceeds the major Part 70 source thresholds for NO_X, CO, SO_2, combined HAP, and H_2S. The source is a minor source for PM_{10}, $PM_{2.5}$, and VOC. As the source is neither a pre-defined Categorical Stationary Source, nor a source category that, as of August 7, 1980, was being regulated under Section 111 or 112 of the CAA, fugitive emissions are not included in the evaluation of the source's status for any pollutant except for HAPs. For HAPs, all emission sources, including fugitives, are included when major source status is determined.

The Clark County Department of Environment and Sustainability, Division of Air Quality (DAQ), has delegated authority to implement the requirement of the Part 70 OP program for all emission units at the source. The permitting history of this source reflects changes in air quality permitting practices, both at the local and federal levels, in response to changing environmental regulations.

The following table summarizes the source potential to emit for each regulated air pollutant from all emission units addressed by this Part 70 Operating Permit revision.

Table 1: Source-Wide PTE Summary (tpy)

Pollutants	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP	H_2S	GHG[1]
Source PTE – Fugitives	222.57	27.77	5.50	29.11	0	36.54	32.16	147.27	
Source PTE – Non Fugitives	46.44	34.81	104.18	273.53	146.52	32.84	3.86	0.58	256,051
Insignificant Activities PTE	1.98	1.98	25.58	14.66	2.41	18.28	0.06	0.00	
Source PTE-Major Source Determination[2]	48.42	36.79	129.76	288.19	148.93	51.12	36.08[3]	0.58	
Source PTE[4]	269.01	62.58	109.68	302.64	146.52	69.38	36.02	147.85	256,051
Major Source Thresholds (Title V)	100	100	100	100	100	100	10/25[5]	-	
Major Stationary Source Thresholds (PSD)	250	250	-	250	250	-	10/25[5]	-	

[1] Metric tons per year of carbon dioxide equivalent. GHG = greenhouse gas pollutants.
[2] The emissions include non-fugitive and insignificant emissions. Not a source-wide PTE.
[3] For HAPs, fugitives are included.
[4] Fugitive and non-fugitive emissions included. Insignificant emissions units' PTE not included.
[5] A major source is defined as 10 tons for any individual HAP or 25 tons for combination of all HAPs.

This source is subject to 40 CFR Part 60, Subparts IIII, OOO, and KKKK and 40 CFR Part 63, Subparts AAAA, YYYY, ZZZZ, DDDDD, and CCCCCC. The engines subject to 40 CFR Part 60, Subpart IIII, satisfy the requirements of 40 CFR Part 63, Subpart ZZZZ, through compliance with 40 CFR Part 60, Subpart IIII.

Based on information submitted by the applicant on October 18, 2022, November 10, 2022, January 10, 2023, June 21, 2023, August 29, 2023, September 25, 2023, April 23, 2024, April 29, 2024, March 31, 2025, December 29, 2025, and a technical review performed by DAQ staff, DAQ proposes the issuance of a Part 70 OP for Apex Landfill.

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I. ACRONYMS

Table I-1: List of Acronyms

AQR	Clark County Air Quality Regulation
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
CD	control device
DAQ	Division of Air Quality
DES	Department of Environment and Sustainability
DOM	date of manufacture
dscf	dry standard cubic feet
dscm	dry standard cubic meter
EPA	U.S. Environmental Protection Agency
EU	emission unit
g/gr	gram
GC	gas chromatograph
HAP	hazardous air pollutant
hp	horsepower
kW	kilowatts
LFG	Landfill gas
MSP	Minor Source Permit
NAICS	North American Industry Classification System
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOV	notice of violation
NO_X	nitrogen oxides
NRS	Nevada Revised Statutes
NSPS	New Source Performance Standard
NSR	New Source Review
O&M	operations and maintenance manual
OP	Operating Permit
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter less than 10 microns in diameter
PSD	Prevention of Significant Deterioration
PTE	potential to emit
SCR	selective catalytic reduction

SIC	Standard Industrial Classification
SO_2	sulfur dioxides
TRS	total reduced sulfur
U.S.C.	United States Code
VMT	vehicle miles traveled
VOC	volatile organic compound

II. SOURCE INFORMATION

A. SOURCE DESCRIPTION

Aggregate Plant

Mined stone is fed into the primary plant by front-end loader where it undergoes initial size reduction before being transported over a series of overland conveyors for further processing. The material is processed through screening, crushing and washing operations to produce various construction aggregates for onsite use as cover material or wholesale delivery to the construction industry. The operations are divided into: Primary Plant, Gabion Plant, Secondary Plant, Sand Plant, Cone Plant, Wash Plant and Landfill Cover Plant. Each plant has the capability to run independently from the primary feed plant and from one another.

Municipal Solid Waste Landfill

Republic's Apex landfill serves as the primary municipal solid waste landfill for Clark County since October of 1993. The types of material the landfill accepts include municipal solid waste, petroleum contaminated soil, asbestos, construction debris, sewage sludge, septic waste, medical waste, and dead animal waste. The Municipal Solid Waste Landfill will be open to public waste delivery 24 hours a day, 365 days per year, closing only on recognized holidays.

Container trucks carrying municipal solid waste enter from I-15. Trucks are weighed or measured as they enter the facility by driving over scales. Waste trucks then drive down a paved and an unpaved road before entering the landfill disposal area. Once at the disposal area, trucks are either unloaded using engine driven tippers or end dumped. The tippers advance across the width of active cells until a new lift is started on top of the completed one in a stacking manner. Empty trucks exit the facility the same way they came in.

Republic has a landfill gas collection and control system with an enclosed combustor flare capable of burning at 136.605 MMBtu/hr or 5,000 cubic feet per minute (EU: W11). The potential SO_2 emissions from the flare are controlled by passing the landfill gas through a desulfurization system to remove H_2S from the landfill gas prior to it going to the enclosed combustion flare or to the landfill energy plant. The landfill gas consists of methane and CO_2 with small concentrations of non-methane organic compounds (NMOC), HAPs and air toxics generated through anaerobic bacterial decomposition of the organic materials in the solid waste. The landfill gas collection system is designed to capture approximately 75% of the landfill gas generated, leaving approximately 25% as fugitive emissions.

Cover material is excavated from the next disposal cell or from borrow areas and processed by Las Vegas Paving to meet landfill specifications. It is then transported to the active cell where it is used as cover material. Cover material is transported from the Las Vegas Paving aggregate plant as needed. Water is used during excavating and various processing activities to control particulate matter. Baghouses are used at each crusher (EUs: A04, A09, A58, A62, A79, A104a, A130 and A151).

Landfill Energy

Republic Services Renewable Energy (RSRE) is located at the Apex Regional Landfill Waste Management Center, which is owned and operated by Republic Dumpco, Inc. (Republic), a subsidiary of Republic Services of Southern Nevada. RSRE combusts LFG in turbines to produce electricity. The energy produced is sold to NV Energy to assist in meeting the 25 percent renewable energy mandate set forth by the State of Nevada (by 2025).

RSRE was a separate source (ID: 16539) until February 1, 2017, when CC Landfill Energy, LLC, sold the generating facility to Republic Services Renewable Energy, LLC, a wholly owned subsidiary of Republic Services, Inc. The first consolidated Part 70 Operating Permit was issued on June 19, 2020.

RSRE operates two landfill gas turbines and an off-gas flare. RSRE is a major Part 70 source for CO and minor for PM_{10}, NO_X, SO_2, VOC and HAP.

Landfill gas is collected by Republic Services through a system of wells located throughout the Apex Waste Management Center. The collected gas is treated through the desulfurization system and piped to the RSRE facility. The LFG passes through chillers prior to reaching the siloxane treatment skids where 60 percent of siloxane compounds are removed from the LFG. From the siloxane removal system, the gas travels to the compressor skids where it is compressed for combustion in two 5.334 MW LFG turbines. The gas is combusted, and the associated thermal energy is then converted into electrical energy. The exhaust gases exit to the atmosphere after leaving the turbine and passing through a Selective Catalytic Reduction (SCR) system for NO_x control. The gas turbines (EUs: E01 and E02) are subject to the regulatory requirements of 40 CFR Part 60, Subpart KKKK, and 40 CFR Part 63, Subpart YYYY.

RSRE uses a SCR system as the NO_X emissions control system. The original 60 percent manufacturer's guarantee for the catalyst's NO_X removal efficiency was based on an average siloxane concentration of less than 75 ppb in pretreated LFG. This maximum SCR catalyst loading rate and an influent LFG concentration of 2,000 mg/m^3 for non-methane organic compounds NMOC, were the basis for the design of the Venture system for the siloxane removal and its efficiency. However, the LFG has higher loading rates for both siloxane and NMOC. As a result, the current NO_X removal efficiency has been set to 30% by control analysis triggered by a significant revision of the ATC issued on May 19, 2014.

The filters in the siloxane system are regenerated on a regular basis to ensure maximum removal of the siloxane by the system. During the regeneration process, regen gas is sent to a small flare for destruction.

Pig Farm

The source also operates several boilers at the pig farm.

B. PERMITTING HISTORY

This is a Renewal to the Part 70 OP for Apex Landfill. The following table shows the permits issued, beginning with the most recent Part 70 OP renewal.

Table II-B-1: Permit History

Issue Date	Description
01/24/2022	Revised Part 70 OP issued (Reopen for Cause)
06/19/2020	Revised Part 70 OP issued (Significant Revision)
10/31/2018	Revised Part 70 OP issued (Minor Revision)
07/12/2018	Renewal Part 70 OP issued

C. PERMITTING ACTION

DAQ received the Title V renewal application on January 10, 2023. The renewal application was received on time; therefore, the permittee is eligible for an application shield. The renewal application was deemed complete on March 7, 2023.

Table II-C-1 lists the applications submitted that are addressed in this permitting action.

The application submitted on October 18, 2022, was in response to Notice of Violation (NOV) #9675. The application submitted on November 14, 2022, was submitted in response to a Warning Notice received by the source on October 11, 2022.

Table II-C-1: Open Applications

Application Date	Application Type	Description
10/18/2022	Part 70 OP Minor Revision	Permittee requested changes to conditions related to the methodology for calculating total reduced sulfur (TRS).
11/14/2022	Part 70 OP Minor Revision	Permittee requested changes to conditions related to the fuel flow limit to the turbines.
01/10/2023	Part 70 OP Renewal	Renew and revise permit. The requested revisions are listed in Table II-C-2.
06/21/2023	Part 70 OP Minor Revision	Permittee requested to replace the baghouse controlling Emission Unit A62.
08/29/2023	Part 70 OP Minor Revision	Permittee requested to revise the condition stating that if the Process Gas Chromatograph (GC) is out of service for more than 12 hours per operating day a log of the out of service time is kept and notification to DES should occur with the semiannual report instead of within 24 hours.
09/25/2023	Part 70 OP Minor Revision	Permittee requested the addition of a low-pressure continuous gas pilot to the open flare (EU: G27).
04/23/2024	Part 70 OP Significant Revision	Add to the Operating Permit an engine permitted in an ATC (EU: W229), and subsequently replaced with a smaller unit (W230).
04/29/2024	Part 70 OP Administrative Revision	Clarify monitoring conditions for when the activated carbon is the primary control of the desulfurization plant.
03/31/2025	Part 70 OP Minor Revision	Replace two propane boilers (EUs: P02 and P03) with a new propane boiler (EU: P05).
12/04/2025	Part 70 OP Significant Revision[1]	Remove the following operational restrictions: the throughput limitation for the open flare (EU: G27), the restriction that the open flare (EU: G27) cannot operate at the same time as the enclosed flare (EU: W11), the annual operational restriction on the enclosed flare (EU: W11), and the requirement that gas is routed to the open flare (EU: G27) only when the gas flow rate is lower than the optimal flow rate of the enclosed flare (EU: W11) or when the desulfurization control is not operational.

[1]Other requests were made in this application that did not qualify as a minor revision and are not included in this renewal permit.

Table II-C-2: Requested Revisions in Renewal Application

EU	Description
A38	Correct the serial number for from 97412D32 to 97H12D32.
A62	Update the serial number for the new baghouse to 98-1296/02.
A109	Like-Kind replacement of a triple deck screen.
A127	Increase the number of holes drilled from 4,680 per year to 7,750 per year.
W01, W02, W214, W215, W217, and W219	Remove these emissions units as they are no longer on site.
N/A	Add two new nonroad engines to the source.
N/A	Add a new continuous duty diesel engine. The permittee stated in the application received on May 8, 2023, that this engine would not be added to the source.
W222 through W228	Classify these engines as nonroad engines as they are portable and move frequently.
W05	Remove the moisture testing requirement for the cover material as it is loaded and dumped by haul truck and not a conveyor.
P01	Correct the boiler from diesel-fueled to propane-fueled.
N/A	Revise various conditions in the permit. See Table II-C-3 for a list of the revisions requested by the source.

In the October 18, 2022, application Republic requested to update the method in which the TRS content of the fuel is determined. This is in response to a settlement agreement pertaining to NOV #9675, and does not change the frequency of the fuel analyses. DAQ agrees to update the permit accordingly.

In the November 14, 2022, application, Republic requested that the fuel flow be based on 50% methane, which is reflective of industry standards and the recommended default value in EPA's Landfill Methane Outreach Program. DAQ agrees to update the permit accordingly.

In the August 29, 2023, application, Republic requested to change the notification requirement when the process gas chromatograph is out of service more than 12 hours to logging the hours it is out of service and reporting that with the semiannual report. In the renewal application, Republic also requested to change the out of service time from 12 hours to 24 hours. The condition has been updated to require the permittee to notify Air Quality within 24 hours of learning that the gas chromatograph has been out of service for more than 24 consecutive hours and to log and report the out of service time of the gas chromatograph.

In the September 25, 2023, application Republic requested to add a natural gas continuous pilot light to the open flare (EU: G27). This pilot light will keep the flare in a stand-by mode that will allow it to immediately process LFG without a delay waiting for the thermocouple to heat up to operating temperature. DAQ agrees to this change.

In the January 28, 2026, supplemental, Republic requested the removal of four operational conditions:

- The permittee shall limit the actual throughput of landfill gas through the open combustion flare to 187,200,000 cubic feet in any consecutive 12-month period (EU: G27). *[NSR ATC Condition IV-A-3-a (09/12/2013)]*
- The permittee shall not operate the open combustion flare (EU: G27) when the enclosed combustion flare (EU: W11) is operating. *[NSR ATC Condition IV-A-3-b (09/12/2013)]*
- The permittee shall route collected gas to the open combustion flare (EU: G27) only when the gas flow rate is lower than the optimal rate for the 5,000 scfm flare (EU: W11), or when the desulfurization control device is not operable due to maintenance or malfunction. *[NSR ATC Condition IV-A-3-c (09/12/2013)]*
- The permittee shall limit the actual throughput of landfill gas through the enclosed combustion flare to 2,099,246,400 cubic feet in any consecutive 12-month period (EU: W11). *[NSR ATC Condition IV-A-3(a) (01/10/2012)]*

This open flare (EU: G27) was originally permitted to operate when landfill gas flow was too low for the enclosed flare (EU: W11) and at the time, the landfill did not produce enough gas to run the enclosed flare at its permitted level and the open flare at its capacity. Over the years, the amount of landfill gas has increased to a point where use of the open flare has increased. In addition, the landfill gas going to the open flare is routed through the desulfurization control device before flaring.

Of the requests made in the applications, six will increase the PTE of the source: the increase in the number of holes drilled for blasting (EU: A127), correcting the boiler from diesel-fueled to propane-fueled (EU: P01), adding the new continuous duty engine (EU: W230), and adding the natural gas pilot light and removal of the operational limits for the flares (EUs: W11 and G27). Since the boiler is for the pig farm operations, these emissions are unrelated to the landfill operations. The increase of PTE due to the increased drilling and the boiler fuel change does not exceed any significance levels.

Table II-C-3: Requested Revisions to Permit Conditions

Condition Number from Existing Permit (Issued 01/25/2022)	Condition Number in Renewal Permit	Affected Units	Proposed Revisions
III.B.1.aa	3.2.24 3.2.25	E01 E02 E03	Republic requests clarification on visible emission limits for E01, E02 and E03 to define the "opacity limit" and eliminate clause III.B.1.x which prohibits any visible emissions for E03 (except for 5 total minutes during any consecutive 2-hour period). Republic considers that defining the opacity limit would provide better guidance.
Response: The three units (EUs: E01, E02, and E03) are subject to AQR 26, which limits opacity to 20 percent. In addition, the flare (EU: E03) is subject 40 CFR 60, Subpart A, which states flares shall be operated with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours, as stated in Condition 3.2.28. Therefore, this condition cannot be removed. A condition was added to clarify that the turbines are subject to the 20 percent opacity limit.			

Condition Number from Existing Permit (Issued 01/25/2022)	Condition Number in Renewal Permit	Affected Units	Proposed Revisions
III.B.2.s	N/A	E01 E02	Republic requests to remove requirement that limits the turbines to 16,644 hours of operation per each 12-month consecutive period. To allow for operational flexibility. Republic request the ability to operate each turbine 8,760 hrs/year. Attachment 3 includes the revised emissions based on operating the turbines 8,760 hrs/year.
Response: When originally permitted, a BACT analysis was submitted for PM, NOx, CO, and VOC. The hour limit was based on the estimated fuel flow and not to avoid additional controls or other requirements. The turbines remain subject to an hourly fuel flow limit. As a result of this, the increase in hours of operation for the turbines does not affect previous control determinations and is approved.			
III.B.2.t	3.1.13	E01 E02	Republic requests clarification that the hourly flow limit of 238,988 scf/hr for the turbines combined can be calculated based on 50% CH_4 (an industry standard for LFG).
Response: As this is an industry standard, DAQ agrees to this change.			
III.B.2.w	N/A	E03	Republic requests to remove the requirement that limits the flare to 6,750 hours per each 12-month consecutive period. The permit currently includes mass limits for this unit, therefore a limit on the operating time does not seem necessary.
Response: The hour limit for this unit was set at the request of the source based on their anticipated usage, and not as a result of a controls analysis or to avoid an applicable requirement. DAQ agrees to this change.			
III.B.2.x	3.1.16	E03	Republic request to clarify that the hourly flow limit of 9,000 scf/hr for the flare can be calculated based on 50% CH_4 (an industry standard for LFG).
Response: As this is an industry standard DAQ agrees to this change.			
III.B.3.nnn	2.2.38	E03	Republic requests clarification that the 1,600°F operating temperature is based on a 3-hour rolling average; a 3-hour rolling average is common in other landfill permits. In addition, Republic also requests clarification on permissible startup time for the flare.
Response: The 3-hour rolling average has been added to the condition. A permissible startup time would be based on manufacturer's operations and maintenance (O&M) manual.			
lll.C.4	4.1.5	E01, E02, and E03	Republic requests DAQ revise the requirement to reflect reasonable conditions for conducting observations if units are only operational for part of the week. For example: "The permittee shall conduct weekly visual emissions check on each emission unit in the Landfill Gas to Energy (EUs: E01, E02, and E03) if the unit is operational for 6 consecutive hours or more on any workday." Republic believes that redefining the condition will eliminate potential deviations and provide better guidance.
Response: "If an emission unit has not operated in the previous seven days, a visible emissions check shall be conducted the next time the emission unit operates" was added to the condition.			

Condition Number from Existing Permit (Issued 01/25/2022)	Condition Number in Renewal Permit	Affected Units	Proposed Revisions
III.C.60 III.C.61 III.C.62.b	4.1.63 4.1.64 4.1.65.c	GC	Republic requests clarification that determining the daily sulfur content in the fuel can be done through the use of a GC, Calorimetric Tube readings, or other DAQ-approved methods. 40 CFR 60.4370 requires sulfur content to be determined/recorded on a daily basis, but does not require the use of a GC. Therefore, it would seem acceptable that, in the event that a GC is not working properly, the sulfur content could be determined using daily Calorimetric Tube readings, so long as the records are appropriately recorded and available to DAQ upon request. [Note: Republic requests to change Draeger to Calorimetric Tube so that the facility can use different manufacturers if needed]
Response: DAQ agrees to this change.			
III.C.62	4.1.65a	GC	Republic requests to modify the GC malfunction reporting from "events lasting longer than 12 hours" to "events lasting longer than 24 hours" (while the facility is operational). Upon review of other landfill air permits, 24-hour reporting is commonly observed at landfills. Note: In the 10/18/2022 permit, the permittee requested this condition require notification “within 24 hours of when the permittee learns of the start of the instrument’s malfunction. “
Response: DAQ agrees to these changes. The condition has been updated to “notify Air Quality, in writing, within 24 hours when the permittee learns of the instrument’s malfunction.”			
III.C.64 III.C.65	4.1.63 4.1.64	E01 E02	Republic requests to modify the methodology for calculating TRS content; the permittee shall conduct a monthly sulfur fuel analysis and determine the ratio of TRS/H_2S in the fuel and determine the non-H_2S species component value of the TRS. The permittee shall then establish a constant non-H_2S species value by taking an average of the monthly non-H_2S species values from the preceding consecutive 12-month period. The non-H_2S species value will then be added to the measured daily H_2S content to determine the daily TRS content of the fuel.
Response: DAQ agrees to this change.			
II.C.65	4.1.68	E01 E02	Republic requests to revise reference(s) of 463.4 ppm TRS to "463.4 ppmv TRS" for clarity.
Response: DAQ agrees to this change.			
III.E.5.II	4.3.8.nn	E01 E02	Republic requests to revise requirement to record SO_2 in lb/MMBtu/hour to lb/MMBtu/day; based on existing recordkeeping requirements there is no lb/MMBtu/hour emission limit but there is a 0.15 lb/MMBtu/day emission limit.
Response: DAQ agrees to this change.			
VIII Attachment 4	9.3.1	E01 E02 E03	Include volumetric approach for calculating SO_2 (Equation 1 below), in addition to "mass-based" approach currently in permit.

Condition Number from Existing Permit (Issued 01/25/2022)	Condition Number in Renewal Permit	Affected Units	Proposed Revisions
Response: DAQ agrees to this change.			
III.B.2.u III.B.3.ccc	2.2.59	E01 E02	Republic requests clarification on SCR operating temperature. Condition iii.B.2.u defines startup as being complete once 540°F achieved, yet condition III.B.3.ccc requires SCR to be operated at a minimum temperature of 504°F. Republic requests DAQ to confirm whether 504°F is a typographical error.
Response: 504°F is a typographical error.			

Equation 1:

$$SO_2\ \left(\frac{lb}{hr}\right) = \frac{\left[\left(\frac{MW\ SO_2}{MW\ H_2S}\right) x\ MW\ H_2S\ x\ 28.32\frac{L}{scf} x\ gas\ flow\ \frac{scf}{hr} x\ avg\ H_2S\ ppmv\ x\ TRS{:}\ H_2S\ scaling\ factor\right]}{\left[1{,}000{,}000\ ppm\ x\ 453.6\frac{g}{lb}\ x\ 2.32\frac{L}{scf} x\ 24.04\frac{l}{mol}\right]}$$

The conditions related to the gasoline storage tank (EU: W06) have been updated to DAQ's most recent language. In addition, the fugitive dust conditions from AQR 92 and AQR 94 are removed, as DAQ's current policy is not to apply these rules to stationary sources.

In addition to the changes above, an internal review of the Part 70 OP resulted in the following changes that will be incorporated into the renewed Part 70 OP:

- A recordkeeping requirement for the visible emissions observations for the MSWL will be added.
- The recordkeeping requirements of pH and temperature of the desulfurization system incorrectly referenced the enclosed flare (EU: W11);
- The recordkeeping requirement of the testing, maintenance, and alarms issued by the desulfurization system pH/temperature continuous monitoring system incorrectly referenced the enclosed flare (EU: W11);
- The requirement for EPA Method 9 testing for the turbines was removed, as these units are not subject to Method 9 testing by a local or federal regulation or policy.
- The condition requiring turbine testing "every year" has been updated to the 40 CFR 60, Subpart KKKK, requirement of every 14 calendar months.
- The well temperature limit has been set to the 40 CFR Part 60, Subpart AAAA, standard of 145°F. Republic retains the ability to request for approval of a higher operating temperature value. This value must be demonstrated to not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.

III. EMISSIONS INFORMATION

A. APPLICABILITY EMISSIONS/PTE

PTE is calculated to include any controls or limits, whether voluntarily proposed by the permittee or required. PTE does not include insignificant emission units and activities, but does include fugitive emissions. The applicability emissions are included in this evaluation as part of an ongoing assessment of the source's status with every proposed change.

The calculated applicability emissions and emission increase are presented in the following tables. The applicability emissions are based on 8,760 hours of operation for all non-fugitive emissions except for the cover material handling (EU: W05) and the GDO (EU: W06). As these units do not have a rating, the applicability emissions are based on the operational limits. This calculation also assumes enough LFG to operate the flares and turbines 8,760 hours each.

Table III-A-1: Applicability Emissions and PTE (tons per year)

Pollutant	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP	H_2S
Source Applicability Emissions	74.89	42.89	132.99	308.60	877.38	52.12	3.96	0.52
Source PTE[1]	269.01	62.58	109.68	302.64	146.52	69.38	36.02	147.85

[1] Fugitive and non-fugitive emissions included. Insignificant emissions units' PTE not included.

B. SOURCE CLASSIFICATION

Table III-B-1 shows the source classification based on the calculated applicability emissions, PTE, and applicable source thresholds.

Table III-B-1: Source Classification (tons per year)

	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOCs	HAPs[1]	H_2S
Applicability Emissions	74.89	42.89	132.99	308.60	877.38	52.12	3.96	0.52
Source PTE- Major Source Determination[2]	48.42	36.79	129.76	288.19	148.93	51.12	36.08[3]	0.58
Major Source Thresholds (Title V)	100	100	100	100	100	100	10/25	-
Major Stationary Source Thresholds (PSD)	250	250	250	250	250	250	10/25	-
Status	Minor	Minor	Major	Major	Major	Minor	Major	-

[1] 10 tpy individual HAP, 25 tpy total HAP.
[2] The emissions include non-fugitive and insignificant emissions. Not a source-wide PTE.
[3] For HAPs, fugitives are included.

The source is classified as a major Part 70 source for NO_X, CO, SO_2, combined HAP, and H_2S as the PTE for these pollutants is greater than the major source thresholds. The source is a minor source for PM_{10}, $PM_{2.5}$, and VOC as the PTE and Applicability Emissions for these pollutants are below the major source thresholds. For HAPs, all emission sources, including fugitives, are included when major source status is determined.

C. EMISSION INCREASE

The changes that affect the PTE are the increase in the number of holes drilled for blasting and drilling operations (EU: A127), the open flare pilot light and removal of operational limits (EU: G27), the propane boiler (EU: P01), the new engine (EU: W230) for which an ATC has been issued, and the removed emission units (EUs: W01, W02, W214, W215, W217, W219, and P01).

As Table III-C-1 shows, the emissions increases are below the AQR 12.4.2.1 significance thresholds. Therefore, the source does not trigger minor NSR significance.

Table III-C-1: Landfill Emissions Increase Calculation and Significance Evaluation (tons per year)

	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP	H_2S
Existing Part 70 OP PTE (01/25/2022)	263.35	57.72	127.91	279.36	167.48	75.29	34.22	147.71
ATC PTE (EU: W229, 03/18/2024)	0.02	0.02	0.15	0.12	0.01	1.88	0.03	0
Renewal PTE	269.01	62.58	109.68	302.64	146.52	69.38	36.02	147.85
PTE Increase	5.64	4.84	-18.38	23.16	-20.97	-7.79	1.77	0.14
Minor NSR Significance Threshold	**7.5**	**5.0**	**20**	**50**	**20**	**20**	**5**	**0.6**
RACT Analysis Required	No	No	No	No	No	No	NA	NA

D. OPERATIONAL LIMITS

Existing operational limits in the most recent Part 70 OP, issued on January 25, 2022, remain unchanged except for the operational limits in the number of holes drilled for blasting is increasing from 4,680 per year to 7,750 per year and the removal of the operation restrictions for the open flare (EU: G27). The pilot light emissions for the open flare (EU: G27) are based on 13,140,000 scf/yr of LFG. The permittee based this on 8,760 hours per year of operation, therefore there will be no operation limit for the use of LFG as fuel for the low-pressure continuous pilot light.

The replacement engine for the one added to the Part 70 OP (EU: W230) from the ATC issued on March 18, 2024, does not have an operational limit. The new propane boiler also does not have an operational limit (EU: P05).

E. CONTROL TECHNOLOGY AND ANALYSIS

The engine added to the Part 70 OP (EU: W229) was not subject to a controls analysis when originally permitted in an ATC, and the replacement engine (EU: W230) is a smaller unit and also not subject to a controls analysis. The emissions increase to the Part 70 OP does not exceed the minor NSR significant levels in AQR 12.5.1(d), therefore a controls analysis is not required.

Previous control determinations remain valid for existing emission units as indicated below.

<u>Aggregate Plant and Blasting (EUs: A01 through A151):</u>

Table III-E-1: Summary of Add-On Control Devices for Aggregate Processing

EU	Device Type	Pressure Drop	Manufacturer	Model	Serial	Pollutant
A04, A09	Baghouse	2.0 - 6.0 in/H_2O	Donaldson Torit	CPV-12	2797228	PM_{10}
A58	Baghouse	2.0 - 8.0 in/H_2O	SiloAir – DCC	VS20KS3	98-1296/01	PM_{10}
A62	Baghouse	2.0 - 8.0 in/H_2O	SiloAir – DCC	VS20KS3	98-1296/02	PM_{10}
A79, A104a	Baghouse	2.0 - 8.0 in/H_2O	PneumaFil	85168	643	PM_{10}
A130	Baghouse	2.0 - 8.0 in/H_2O	Donaldson Torit	CPV-12	2797229	PM_{10}
A151	Baghouse	2.0 - 8.0 in/H_2O	SiloAir – DCC	VS20KS3	99-1141/01	PM_{10}

1. PM_{10} emissions from the aggregate plant not otherwise controlled by baghouse or part of the wet process are controlled using wet suppression. The aggregate plant crushers are all controlled by baghouses. Moisture was not considered in the emission calculations for crushers as controls analyses in previous permitting actions for these emission units concluded baghouses as BACT.
2. PM_{10} emissions from blasting are accounted for in emission unit A127. CO and NOx emissions from using ANFO used for the blasting material were researched and no controls were identified for these emissions.

Haul Roads (EUs: H01 and H02):

3. The paved and unpaved haul roads will continue to be maintained per previous BACT determinations (a control efficiency of 90 percent for unpaved haul roads and 98 percent in the case of paved haul roads).

Waste Placement (EU: W08):

4. Republic proposed the control for PM_{10} emission from waste placement to be placing waste slowly from the lowest height practicable.

Enclosed Flare (EU W11):

5. The permitting action proposing the flare exceeded the PSD Significance level for $PM_{2.5}$ and SO_2 as defined in AQR 12.2.2(uu). The source was required to install controls that satisfied BACT for $PM_{2.5}$ and SO_2. Additionally, the proposed flare exceeded the Minor NSR Significance level for PM_{10}, which required the source to install controls that satisfied RACT for that pollutant. Instead, the source proposed an AQR 12.2 analysis for all the noted criteria pollutants, including PM_{10}, which satisfied the level of required control.
6. The BACT analysis for SO_2 concluded that a desulphurization system for hydrogen sulfide removal and proper maintenance and operation, including monitoring for the presence of a flame, operational temperature, landfill gas flow to the flare, zero percent opacity and measuring the percent methane in the landfill gas were considered effective control technologies for the LFG flare (technically and economically feasible).
7. Operating the desulfurization system is required when the enclosed combustor flare (EU W11) is operating, per condition IV-B-4 in the ATC issued on 01/10/12. However, this condition was revised slightly in the Operating Permit to make its intent more explicit, which is to control the emissions from the flare when it is operating.
8. The BACT analysis for $PM_{2.5}$ and PM_{10} identified as a control option good combustion practices and proper maintenance and operation, including monitoring for the presence of a flame, the LFG flow rate to the flare, zero percent opacity and measuring the methane in the LFG gas.

Open Flare (EU G27):

9. Based on the technologies available and cost effectiveness, the permittee considers ensuring proper maintenance and operation of the LFG flare (EU G27) as RACT. Proper maintenance of the flare will include monitoring for the presence of the flame, the LFG flow rate to the flare, zero percent opacity, and measuring the percent methane in the LFG. The permittee will monitor methane quarterly and conduct a visual observation daily. Additionally, as the existing desulphurization unit can effectively control SO_2 emissions from the new LFG flare by controlling H_2S in LFG, the source will be required to treat the LFG for H_2S prior to oxidation when the existing desulphurization unit is available.

Internal Combustion Engines:

10. The engines at this source (EUs: W230 and P04) are subject to 40 CFR 60 Subpart IIII or 40 CFR 63 Subpart ZZZZ and so must meet the fuel requirements referenced therein from 40 CFR Subpart I, §80.510(b) for non-road diesel fuel. The source must purchase diesel fuel that meets the per-gallon standard of 15 ppm maximum sulfur content, a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent. As all refiners and importers of non-road diesel fuel are also subject to these federal standards pursuant to 40 CFR §80.510, it is reasonable to assume the operators of the engines have very little opportunity, if any, to acquire fuel that violates these standards. Therefore, the permittee is not required by the operating permit to monitor or keep records of the sulfur content, cetane index, or aromatic content of the diesel fuel used in their engines.

F. MONITORING

There are no substantial changes to the monitoring requirements as part of this renewal. The permittee is required to conduct visible emissions checks on aggregate processing equipment and combustion units. Water sprays and baghouses on the aggregate processing equipment are also subject to regular monitoring and inspections. All throughput limits such as the amount of aggregate processed, the amount of blasting, VMT, waste placement, LFG combusted, and hours of operation of combustion units are monitored by the permittee.

The permittee will continue to monitor the surface methane of the landfill and wellheads to meet the requirements of 40 CFR 63, Subpart AAAA. In accordance with the subpart, the permittee is required to develop and follow a surface monitoring design plan and shall use a portable monitor at least quarterly. Any reading of 500 ppm or more of methane requires additional actions including re-monitoring, installing additional well components or upgrading existing wells.

A condition was added requiring the permittee to measure the gauge pressure in the gas collection header at each individual well monthly. Corrective actions are included in this condition.

To comply with 40 CFR Part 63, Subpart AAAA, nitrogen, oxygen, and temperature monitoring requirements, along with follow-up monitoring and corrective actions, were added to the Part 70 OP.

In the Part 70 OP revision issued on June 19, 2020, the post construction ambient air monitoring requirement was removed. A full accounting of the reasoning behind this change can be found in the TSD of that permitting action.

Increased baghouse monitoring conditions, which include internal and external inspections, have been added to the Part 70 OP in accordance with current DAQ practices.

G. PERFORMANCE TESTING

No new performance testing requirements are added in this permitting action.

Moisture testing for the cover material is removed in this permitting action. The permittee transports this material with haul/dump trucks, not conveyors and stackers, and then pushes it with a dozer to cover the area and then stabilizes the area with water as needed. Compliance will be demonstrated by required visible emissions checks.

Baghouses, the enclosed flare (EU: W11), and the desulfurization system are required to be tested every five years. The gasoline dispensing equipment (EU: W6) is required to be tested every three years. The turbines (EUs: E01 and E02) are required to be tested every year. The LFG combusted in the turbines or flare is required to be tested every year for sulfur content.

IV. REGULATORY REVIEW

A. LOCAL REGULATORY REQUIREMENTS

DAQ has determined that the following public laws, statutes, and associated regulations are applicable:

1. Chapter 445 of the NRS, Sections 401 through 601;
2. Portions of the AQR included in the SIP for Clark County, Nevada. SIP requirements are federally enforceable. All requirements from ATC permits issued by DAQ are federally enforceable because these permits were issued pursuant to SIP-included sections of the AQR; and
3. Portions of the AQR not included in the SIP. These locally applicable requirements are locally enforceable only.

B. FEDERALLY APPLICABLE REGULATIONS

DAQ has determined that the following federal regulations are applicable:

1. CAAA (42 U.S.C. § 7401, et seq.);

2. Title 40 of the CFR, including 40 CFR Part 70 and others;

40 CFR PART 60-STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES:

Subpart A - General Provisions

40 CFR §60.7- Notification and recordkeeping
Discussion: This regulation requires notification to DAQ of modifications, opacity testing, records of malfunctions of process equipment and/or monitoring device, and performance test data. These requirements are found in the Part 70 OP. DAQ requires records to be maintained for five years, a more stringent requirement than the two (2) years required by 40 CFR 60.7.

40 CFR §60.8 - Performance tests
Discussion: These requirements are found in the Part 70 OP. Notice of intent to test, the applicable test methods, acceptable test method operating conditions, and the requirement for three runs are outlined in this regulation. DAQ requirements for initial performance testing are identical to 40 CFR §60.8. DAQ also requires periodic performance testing on emission units based upon throughput or usage.

40 CFR §60.11 - Compliance with standards and maintenance requirements
Discussion: Republic Services is subject to NSPS standard: 40 CFR 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants.

40 CFR §60.12 – Circumvention
Discussion: These requirements are found in the Part 70 OP. This is also SIP-approved local rule AQR 80.1.

40 CFR §60.13 - Monitoring requirements
Discussion: The Part 70 OP contains the monitoring conditions. Republic Services does not operate any continuous monitoring systems.

40 CFR 60 Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants

40 CFR 60.670 – Applicability
Discussion: The source operates crushing, screening, and conveying equipment and is therefore subject to standards based on 40 CFR Part 60.670(a)(1).

40 CFR 60.672 – Standard for particulate matter
Discussion: The source is subject to the requirements of particulate matter standards and emission limits, including a 0.032 g/dscm PM limits and 7% opacity limits, as described in Tables 2 and 3 of the Subpart. These requirements are found in the Part 70 OP Emissions Limits sections.

40 CFR 60.675 - Test methods and procedures
Discussion: The permittee shall determine compliance with the PM standards using test methods described in this subsection. Opacity standards to be demonstrated using Method 9 and the PM emission standards are to be demonstrated using Method 5 or Method 17. These requirements are found in the Part 70 OP.

40 CFR 60.676 – Reporting and recordkeeping
Discussion: The permittee shall submit to the Control Officer information required by this subsection. Specific record keeping and reporting requirements are identified in the Part 70 OP.

Subpart XXX – Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014

40 CFR 60.760 – Applicability Determination
Discussion: This subpart does not apply as the source has not modified or reconstructed since the applicability date of July 17, 2014. The source was subject to 40 CFR Part 60, Subpart WWW, until the applicability date of September 28, 2021, when the source became subject to 40 CFR Part 63, Subpart AAAA.

Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

40 CFR 60.4200 – Applicability Determination
Discussion: This subpart applies to diesel engines (EUs: W213, W216, and W218).

40 CFR 60.4202 and 40 CFR 60.4205 – Emission Standards for Owners and Operators
Discussion: The operator of the stationary CI ICE must provide the manufacturer certification of the emission standard specified in this subpart. These requirements are addressed in the Part 70 OP.

40 CFR 60.4206 and 40 CFR 60.4211 – Compliance Requirements
Discussion: The operator of the stationary CI ICE must operate and maintain CI ICE that achieve the emission standards according to the manufacturer's written instructions and procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine. These requirements are addressed in the Part 70 OP.

40 CFR 60.4214 – Reporting and Recordkeeping Requirements
Discussion: The operator of the CI ICE shall keep records that include engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement; emission control equipment; and fuel used. If the stationary CI internal combustion is a certified engine, the owner or operator shall keep documentation from the manufacturer that the engine is certified to meet the emission standards. These requirements are addressed in the Part 70 OP.

Subpart KKKK **– Standards of Performance for Stationary Combustion Turbines**

40 CFR 60.4305 – Applicability
Discussion: Subpart KKKK applies to Turbine Units 1 and 2 (EUs: E01 and E02) as construction commenced after the applicability date of February 18, 2005.

40 CFR 60.4320 – Standard for nitrogen oxides
Discussion: The NOx limit from 40 CFR 60, Subpart KKKK is 25 ppmvd at 15 percent oxygen. The source has a limit in the Part 70 OP achieved by the BACT requirement of 24 ppm NO_x at 15 percent oxygen. By meeting the BACT requirement, the source will meet the Subpart KKKK NOx standard.

40 CFR 60.4330 – Standard for sulfur dioxide
Discussion: The source is subject to an SO_2 emission standard of 0.15 lbs/MMBtu and meets this by limiting the sulfur content of the LFG and flare to 100 ppmv.

40 CFR 60.4333 – General Compliance Requirements
Discussion: The source is required to operate and maintain the turbines and control equipment consistent with good air pollution control practices. Compliance demonstration for this source is discussed in the OP.

40 CFR 60.4345 - Monitoring of operations
Discussion: Per 40 CFR 60.4340, to demonstrate continuous compliance with NO_x the permittee may choose to conduct annual stack testing or may choose to install a continuous monitoring system. The permittee has elected to demonstrate continuous compliance with NO_x by conducting an annual stack test.

40 CFR 60.4375 – Reporting Requirements
Discussion: The source is required to submit notifications of performance tests, semiannual, and annual reports. These are discussed in the Part 70 OP.

40 CFR 60.4400 – Test methods and procedures
Discussion: These requirements are in the conditions for performance testing found in the Part 70 OP. Performance tests for NOx, CO, and SO_2 on the turbines are required annually.

40 CFR 62 - APPROVAL AND PROMULGATION OF STATE PLANS FOR DESIGNATED FACILITIES AND POLLUTANTS

Subpart OOO -- Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction on or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014

40 CFR 62.16710 – Scope and delegated authorities
Discussion: This subpart establishes emission control requirements and compliance schedules for the control of designated pollutants from certain designated municipal solid waste (MSW) landfills in accordance with section 111(d) of the Clean Air Act and subpart B of 40 CFR part 60.

This source is an MSW landfill located in an applicable state and commenced construction prior to July 17, 2014. Since the existing municipal solid waste landfill already has a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters, then it is subject to the requirements of this Federal plan. Applicable requirements in this regulation have been incorporated into the permit including operating requirements for the LFG collection system. By meeting the requirements or 40 CFR Part 63, Subpart AAAA, the source meets the requirements of 40 CFR Part 62, Subpart OOO.

40 CFR 63 - NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES:

Subpart AAAA – National Emission Standard for Hazardous Air Pollutants for Municipal Solid Waste Landfills

40 CFR 63.1935 – Applicability
Discussion: The permittee is subject to the applicability of this subpart. The source is an MSW landfill that has accepted waste after the applicability date and the source is a major source.

40 CFR 63.1955 – Standards
Discussion: The permittee shall comply with the requirements of 40 CFR 63, Subpart AAAA. The permittee shall operate the source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

40 CFR 63.1957 – Gas Collection and Control Systems
Discussion: The permittee is required to operate the gas collection and control system in accordance with the provisions of §§ 63.1958, 63.1960, and 63.1961, including operating the LFG collection system under negative pressure at the wellheads, at a temperature less than 62.8ºC (145ºF), following a surface monitoring design plan, and monitoring surface methane concentrations. The permittee is required to maintain and operate the collection and control system to continue a 75% collection rate of Landfill gas with a control efficiency of 98% at the enclosed combustion flare.

40 CFR 63.1959 – NMOC Calculation Procedures
Discussion: The permittee is required to demonstrate compliance with this subpart by testing and calculating the NMOC reduction in the LFG collection and control system as outlined in this section.

40 CFR 63.1981 – Notifications, Records, and Reports
Discussion: The permittee is subject to the requirements of notifications, records, and reports. The permittee shall keep records and reports as specified in 40 CFR 63 Subpart AAAA, including the collection and control system design plan, any revisions to this plan, and submitting semiannual reports.

Subpart YYYY – National Emission Standard for Hazardous Air Pollutants for Stationary Combustion Turbines

40 CFR 63.6085 – Applicability
Discussion: This subpart applies as the permittee operates combustion turbines located at a major source of HAP emissions.

40 CFR 63.6090 – Limited Requirements
Discussion: Landfill gas makes up greater than 10 percent of the gross heat input on an annual basis, therefore the permittee is subject only to the initial notification requirements of § 63.6145(d) and the monitoring and reporting requirements as provided in §§ 63.6125(c) and 63.6150.

Subpart ZZZZ – National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

40 CFR 63.6585 – Applicability
Discussion: Subpart ZZZZ applies to engines W205, W207, W213, W216, and W218 at this source.

40 CFR 63.6603 – Emission Limitations and Operating Limitations
Discussion: The requirements are stipulated in the Part 70 OP. As the engines are not emergency units, they are not subject to the operating restrictions of the subpart.

40 CFR 63.6625 – Monitoring, Installation, Collection, Operation and Maintenance Requirements
Discussion: The source must install a non-resettable hour meter if one is not already installed. The source must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop their own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

40 CFR 63.7485 - Applicability
Discussion: Subpart DDDDD applies to the 5.0 MMBtu/hr propane fired boiler (EU: P01) at this source as the source is major for HAP.

40 CFR 63.7540 – Monitoring and Work Practice Standards
Discussion: The source is subject to the five-year tune-up requirements and good pollution control practices (inspect burner, flame pattern, air-to-fuel ratio, and measure and optimize CO concentrations in the effluent stream).

40 CFR 63.7550 – Reporting Requirements
Discussion: The source is subject to the biennial compliance reporting requirements as detailed in the Title V Operating Permit.

40 CFR 63.7555 – Notification and Record Keeping Requirements
Discussion: The source is subject to the notification and record keeping requirements of this rule as indicated in the Title V Operating Permit.

40 CFR 63, Subpart CCCCCC - National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities
Discussion: Requirements for facilities with monthly throughput of less than 10,000 gallons of gasoline apply to Republic Services. The source is responsible to follow the rule provisions for notification, monitoring, recordkeeping and management practices required by this rule.

40 CFR Part 64 – Compliance Assurance Monitoring (CAM)

40 CFR 64.2 - Applicability
Discussion: CAM applicability was considered during the original permitting of each source. The only emission units with uncontrolled potential emissions greater than the major source thresholds are the turbines (EUs: E01 and E02). CAM was considered when these units were originally permitted for CO emissions. However, 40 CFR Part 60, Subpart KKKK, does not have a CO emission limitation. The other pollutants with significant emissions from these units for which a federal standard does apply, NOx and SO_2, do not exceed the major source thresholds with uncontrolled emissions. Therefore, CAM does not apply to any emission unit at this source.

V. COMPLIANCE

A. COMPLIANCE HISTORY

Table V-A-1: Compliance History

Compliance Issue	How Resolved/Proposed	Status/Date
Source 395		
NOV 9846 (05/18/2023): • Unpermitted continuous duty diesel engine.	Republic submitted a permit revision application for the unpermitted emission unit, paid a civil penalty, and a Hearing Officer Order was entered.	Closed (07/26/2023)
NOV 9693 (04/26/2022): • Exceeding the permitted fuel flow limitation of 9,000 ft^3/hr for the enclosed flare (EU: E03). • Failing to identify intermittent compliance for 19 permit conditions in the 2021 ACC.	Republic paid a civil penalty.	Closed (05/26/2022)
NOV 9675 (04/26/2022): • Exceeding the permitted TRS ppm hourly average four times on February 3, 2022. • Exceeding the calculated permit SO_2 lb/hr limit three times on February 3, 2022.	The Part 70 OP will be updated to require the permittee to conduct monthly fuel analysis for TRS content of the fuel, determine the non-H_2S species component value of the TRS, pay a civil penalty, and a Hearing Officer Order was entered.	Closed (09/22/2022)

NOV 9600 (09/29/2021): • Failing to submit the 2020 ACC for January 1, 2020, through June 18, 2020. • Failing to identify intermittent compliance for 47 permit conditions in the 2019 and 202 ACC. • Failing to report deviations that did not result in excess emissions in the 2019 2nd semi-annual report and 2020 1st and 2nd semi-annual reports. • Failing to limit the throughput of LFG to the open combustion flare (EU: G27) from November 2018 through October 2019. • Failing to conduct and maintain records of biweekly sampling for moisture testing. • Failing to maintain the pH of the media in the desulfurization system from December 13 through 19, 2020. • Allowing controllable particulate emission to become airborne on the landfill slope. • Failing to conduct and maintain records of daily inspections on the vapor recovery unit (EU: W06) from August 3, 2019, through May 6, 2021. • Failing to conduct subsequent vapor recovery system performance tests within three years of the previous successful test. • Failing to submit the final test report within 60 days for the baghouse on the cone crusher on November 1, 2019.	Republic paid a civil penalty.	Closed (01/27/2022)
NOV 9597 (08/30/2021): • Failing to submit notifications of two excess emission events within 24 hours. • Exceeding the SO_2 lb/MMBtu daily average emission limitations on EU: E02	Republic paid a civil penalty.	Closed (09/23/2021)
Source 16539		
NOV 9468 (10/29/2020): • Exceeding the calculated permit SO_2 limit.	Republic paid a civil penalty.	Closed (11/30/2020)
NOV 9395 (02/07/2020): • Exceeding the calculated permit SO_2 limit.	Republic paid a civil penalty.	Closed (06/30/2020)
NOV 9352 (10/17/2019): • Exceeding the calculated permit SO_2 limit during a performance test.	Republic paid a civil penalty.	Closed (11/14/2019)
NOV 9260 (04/17/2019): • Failing to submit the ACC by the deadline.	Republic paid a civil penalty.	Closed (05/28/2019)

B. COMPLIANCE CERTIFICATION

a. Regardless of the date of issuance of this Part 70 OP, the schedule for the submittal of reports to the Control Officer shall be as follows:

Table V-B-1: Reporting Schedule[1]

Required Report	Applicable Period	Due Date
Semiannual report for 1st six-month period	January, February, March, April, May, June	July 30 each year[1]
Semiannual report for 2nd six-month period; any additional annual records required	July, August, September, October, November, December	January 30 each year[1]
Annual Compliance Certification	Calendar year	January 30 each year[1]
Annual Emissions Inventory Report	Calendar year	March 31 each year[1]
Annual Emissions Statement[2]	Calendar year	March 31 each year[1]
Notification of Malfunctions, Startup, Shutdowns, or Deviations with Excess Emission	As required	Within 24 hours of the permittee learns of the event
Excess Emissions that Pose a Potential Imminent and Substantial Danger	As required	Within 12 hours of when permittee learns of event
Report of Malfunctions, Startup, Shutdowns, or Deviations with Excess Emission	As required	Within 72 hours of the notification
Deviation Report without Excess Emissions	As required	Along with semiannual reports[1]
Performance Testing Protocol	As required	No less than 45 days, but no more than 90 days, before the anticipated test date[1]
Performance Testing	As required	Within 60 days of end of test[1]
RATA Protocol	As required	No less than 21 days, but no more than 90 days, before the anticipated test date[1]
RATA Results	As required	Within 45 days of end of test for Part 75 sources or within 60 days for all others[1]

[1]If the due date falls on a federal or Nevada holiday, or on any day the office is not normally open for business, the submittal is due on the next regularly scheduled business day.
[2]Required only for stationary sources that emit 25 tons or more of nitrogen oxide (NO_X) and/or emit 25 tons or more of volatile organic compounds (VOC) during a calendar year.

a. A statement of methods used for determining compliance, including a description of monitoring, recordkeeping, and reporting requirements and test methods.

b. A schedule for submission of compliance certifications during the permit term.

c. A statement indicating the permittee's compliance status with any applicable enhanced monitoring and compliance certification requirements of the Act.

C. SUMMARY OF MONITORING FOR COMPLIANCE

Table V-C-1: Summary of Monitoring for Compliance

EU	Process Description	Monitored Pollutants	Applicable Subsection	Requirements	Compliance Monitoring
A01	Mining	Opacity	AQR Section 26	No greater than 20 percent opacity.	Visual emission observations
A02, A07, A08, A12, A16, A17, A22, A23, A25, A27, A28, A30, A31, A33, A34, A35, A37, A38, A40, A42, A44, A46, A47, A49, A51, A52, A60, A65, A69, A72, A74, A77, A152, A82, A83, A85, A87, A89, A93, A95, A98, A102, A106, A128, A133, A136, A138, A141, A143, A145, A147 and A149	Aggregate Processing	Opacity	40 CFR 60, Subpart OOO	No greater than seven percent opacity.	Visual emission observations. Method 9 testing every five years.
A04, A09, A58, A62, A79, A104a, A130 and A151	Crushers with Baghouse Control	Opacity	40 CFR 60, Subpart OOO	Less than 7 percent opacity	Visual emission observations. Method 5 or 17 testing every five years.
		PM	40 CFR 60, Subpart OOO	Less than 0.032 g/dscm (0.014 gr/dscf)	
A127	Blasting	Opacity	AQR Section 26	No greater than 20 percent opacity.	Visual emission observations.
H01	Paved Haul Road	Opacity	AQR Section 26	No greater than 20 percent opacity.	Visual emission observations.
H02	Unpaved Haul Road	Opacity	AQR Section 26	No greater than 20 percent opacity.	Visual emission observations.
W06	Gasoline Tank	VOC and HAP	40 CFR 63, Subpart CCCCCC	Vapor leaks	Daily inspection to GDO equipment
W08	Waste Placement	Opacity	AQR Section 26	No greater than 20 percent opacity.	Best management practices
W09	Stockpiles	Opacity	AQR Section 26	No greater than 20 percent opacity.	At least 70% moisture content when active and dust palliative when inactive
W11 and G27	Landfill Gas Collection and Combustion Flares	CO NO_x SO_2 PM_{10} VOC CH_4 NMOC HAPs H_2S	AQR Sections 12, 40 CFR § 60.18, 40 CFR § 62 Subpart OOO and 40 CFR § 63 Subpart AAAA	Measure the pressure, monitor the oxygen concentration, and monitor temperature of landfill gas. Measure the pressure in the gas collection header. Measurements of gas flow rate. Btu content of	Monthly measurements at each wellhead. Monthly pressure measurements of gas

EU	Process Description	Monitored Pollutants	Applicable Subsection	Requirements	Compliance Monitoring
				landfill gas. Surface monitoring. Visible emissions. Chemical testing of landfill gases for CH_4. Flare Temperature.	collection header at each individual well. Monthly, Quarterly, and annual records showing landfill gas flow rate. Quarterly testing for Btu content of landfill gas. Quarterly (500 ppm). Quarterly visible emission from the flare employing Method 22. Quarterly chemical analysis on the landfill gas for CH_4. Recordkeeping is required for compliance demonstration.
W100	Fugitive Emissions from Landfill	VOC CH_4 NMOC HAPs H_2S	AQR Sections 12, 40 CFR § 60.18, 40 CFR § 62 Subpart OOO and 40 CFR § 63 Subpart AAAA	Monitor the landfill cover integrity. Monitor fugitive CH_4. Calculate fugitive emission from the landfill. SO_2 ppm	Monthly monitoring of landfill cover. Quarterly monitoring of the fugitive CH_4 concentration in ppm. Annual calculation of fugitive emission from the landfill, based on quarterly surface testing and chemical analysis. Monthly data collection Recordkeeping is required for compliance demonstration.
W230	Continuous Duty Diesel Engine	SO_2, Opacity	AQR Section 26	Opacity shall not exceed 20%, except for 3 min. out of every 60 minute period	Sulfur content of fuel. Additional monitoring per the request of the Control Officer
E01, E02	Combustion Turbines	NO_x, CO, SO_2, NH_3	40 CFR 60, Subpart KKKK AQR 12.2, 12.4 and 12.5	Annual and short-term emission limits. Stack testing annually for NO_x, and CO Fuel consumption recordkeeping and reporting	Stack testing for NO_x, CO, NH_3, and SO_2 Compliance for monitored emissions shall be based on fuel consumption and emission factors. Record keeping is required for compliance demonstration.

EU	Process Description	Monitored Pollutants	Applicable Subsection	Requirements	Compliance Monitoring
					SO_2 will be monitored through sulfur content in the fuels.
		Opacity	AQR 26	Opacity 20%	Good combustion practices Weekly visual observations of opacity shall be made while operating. Immediate logging of any opacity noted, and correction of opacity exceedance.
E03	Enclosed Landfill Gas Flare	Opacity	AQR 26	Shall not discharge into the atmosphere any visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.	Weekly visual observations of opacity shall be made while operating. Immediate logging of any opacity noted, and correction of opacity exceedance.

D. COMPLIANCE SUMMARY

LVGS has certified, through its renewal application, minor revision applications, and annual compliance certification, that the permittee is in compliance with all permit conditions and applicable requirements.

Table V-D-1: AQRs Applicable to Republic

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 0	Definitions.	Applicable – Republic will comply with all applicable definitions as they apply.	Republic will meet all applicable test methods should new definitions apply.	Republic complies with applicable requirements.
AQR Section 4	Control Officer	Applicable – The Control Officer or his representative may enter into Republic property, with or without prior notice, at any reasonable time for purpose of establishing compliance.	Republic will allow Control Officer to enter Station property as required.	Republic complies with applicable requirements.
AQR Section 5	Interference with Control Officer	Applicable - Republic shall not hinder, obstruct, delay, resist, interfere with, or attempt to interfere with, the Control Officer.	Republic will allow Control Officer to operate as needed.	Republic complies with applicable requirements.
AQR Section 8	Persons Liable for Penalties – Punishment Defense	Applicable – Republic and employees will be individually and collectively liable to any penalty or punishment from DAQ.	Republic understands and will adhere to the rules stipulated in the AQR.	Republic complies with applicable requirements.
AQR Section 9	Civil Penalties	Applicable – Republic as a whole is subject to penalties for AQR violations.	Republic understands and will adhere to the rules stipulated in the AQR.	Republic complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 12.0	Applicability, General Requirements, and Transition Procedures	Applicable – Republic as a whole is subject to these requirements. The rule outlines source applicability, the requirement for a source to obtain a permit, and transition for sources that received a permit prior to rulemaking.	Republic applied for and received ATC permits from DAQ prior to commercial operations. Republic will comply with the requirements for ATCs.	Republic complies with applicable requirements.
AQR Section 12.2	Permit Requirements for Major Sources in Attainment Areas (PSD)	Applicable – Republic is a major source located in an attainment area.	Not Applicable.	Republic complies with applicable requirements.
AQR Section 12.3	Permit Requirements for Major Sources in Nonattainment Areas	Not Applicable – Republic is a not in an area designated as nonattainment for any pollutant.	Not Applicable.	Not Applicable.
AQR Section 12.4	Authority to Construct Application and Permit Requirements for Part 70 Sources	Applicable – Republic as a whole is subject to these requirements. The rule outlines the ATC application requirements.	An ATC permit was applied for and obtained for Republic prior to commercial operation. Any new ATC applications will adhere to these requirements.	Republic complies with applicable requirements.
AQR Section 12.5	40 CFR Part 70 Operating Permits	Applicable – Republic is a major stationary source under Part 70. Renewal applications are due between 6 and 18 months prior to expiration. Revision applications will be submitted within 12 months or commencing operation of any new emission unit.	Republic's existing Part 70 permit is dated July 12, 2018. This renewal application was submitted before the July 11, 2023, expiration. Applications for new units will be submitted within 12 months of startup.	Republic complies with applicable requirements.
AQR Section 12.7	Emission Reduction Credits (ERC)	Applicable – In the event Republic generates or requires ERC, Republic will follow the procedures in this section.	Republic will follow the procedures of this section to bank or generate and ERC	Republic complies with applicable requirements.
AQR Section 12.9	Annual Emissions Statement and Inventory Requirement	Applicable – Republic has the potential to emit greater than 25 tons per year of NO_x and VOC	Republic is required to submit and annual emissions statement.	Republic complies with applicable requirements.
AQR Section 12.10	Continuous Monitoring Requirements for Stationary Sources	Not Applicable – Republic does not operate a CEMS.	Not Applicable.	Not Applicable.
AQR Section 13.2(b)(1) Subpart A	NESHAP – General Provisions	Applicable – Republic is an affected facility under the regulations. Section 13 is locally enforceable; however, the NESHAP standards they reference are federally enforceable.	Applicable monitoring, recordkeeping and reporting requirements.	Republic complies with applicable requirements.
AQR Section 13.2(b)(59) Subpart AAAA	NESHAP – Municipal Solid Waste Landfills	Applicable – Republic accepts MSW at the landfill and is a major source.	Applicable emissions and operating standards.	Republic complies with applicable requirements.
AQR Section 13.2(b)(81) Subpart YYYY	NESHAP – Stationary Combustion Turbines	Applicable – Republic operates combustion turbines located at a major source of HAP emissions.	Applicable initial notification requirements and monitoring and reporting requirements.	Republic complies with applicable requirements.
AQR Section 13.2(b)(82) Subpart ZZZZ	NESHAP – Stationary Reciprocating Internal Combustion Engines	Applicable – The diesel engines are affected units.	Applicable monitoring and recordkeeping requirements.	Republic complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 13.2(b)(86) Subpart DDDDD	NESHAP – Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters	Applicable – The propane boiler is an affected unit.	Applicable monitoring, recordkeeping and reporting requirements.	Republic complies with applicable requirements.
AQR Section 13.2.(b)(106) Subpart CCCCCC	National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities	Applicable – The Republic gasoline dispensing is an affected operation.	Applicable monitoring and recordkeeping requirements.	Republic complies with applicable requirements.
AQR Section 14.1(b)(1) Subpart A	NSPS – General Provisions	Applicable – Republic is an affected facility under the regulations. Section 14 is locally enforceable; however, the NSPS standards they reference are federally enforceable.	Applicable monitoring, recordkeeping and reporting requirements.	Republic complies with applicable requirements.
AQR Section 14.1(b)(40) Subpart GG	NSPS – Stationary Gas Turbines	Not Applicable – The Republic turbines were constructed after February 18, 2005, and therefore are subject to 40 CFR 60, Subpart KKKK.	Not Applicable.	Not Applicable.
AQR Section 14.1(b)(83) Subpart KKKK	NSPS – Stationary Gas Turbines	Applicable – The Republic turbines were constructed after February 18, 2005, and therefore are subject to this subpart.	Applicable emission standards, monitoring, testing, recordkeeping, and reporting requirements apply.	Republic complies with applicable requirements.
AQR Section 18	Permit and Technical Service Fees	Applicable – Republic will be required to pay all required/applicable permit and technical service fees.	Republic is required to pay all required/applicable permit and technical service fees.	Republic complies with applicable requirements.
AQR Section 25	Upset/ Breakdown, Malfunctions	Applicable – Any upset, breakdown, emergency condition, or malfunction which causes emissions of regulated air pollutants in excess of any permit limits shall be reported to Control Officer. Section 25.1 is locally and federally enforceable.	Any upset, breakdown, emergency condition, or malfunction in which emissions exceed any permit limit shall be reported to the Control Officer within 24 hours of onset of such event.	Republic complies with applicable requirements.
AQR Section 26	Emissions of Visible Air Contaminants	Applicable – Opacity for the Republic combustion turbine must not exceed 20 percent for more than six (6) minutes in any 60-minute period.	Compliance determined by EPA Method 9.	Republic complies with applicable requirements.
AQR Section 28	Fuel Burning Equipment	Applicable – Regulation establishes maximum PM emission rates for fuel burning equipment as defined in Section 0.	Republic has determined the maximum allowable PM emission rate from the equation in ARQ 28. All emission units are documented as having emissions lower than the maximum allowable rate	Republic complies with applicable requirements.
AQR Section 40	Prohibition of Nuisance Conditions	Applicable – No person shall cause, suffer or allow the discharge from any source whatsoever such quantities of air contaminants or other material which cause a nuisance. Section 40 is locally enforceable only.	Republic air contaminant emissions controlled by pollution control devices or good combustion in order not to cause a nuisance.	Republic complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 41	Fugitive Dust	Applicable – Republic shall take necessary actions to abate fugitive dust from becoming airborne.	Republic utilizes appropriate best practices to not allow airborne fugitive dust.	Republic complies with applicable requirements.
AQR Section 42	Open Burning	Applicable – In the event Republic burns combustible material in any open areas, such burning activity will have been approved by Control Officer in advance. Section 42 is a locally enforceable rule only.	Republic will contact DAQ and obtain approval in advance for applicable burning activities as identified in the rule.	Republic complies with applicable requirements.
AQR Section 43	Odors in the Ambient Air	Applicable – An odor occurrence is a violation if the Control Officer is able to detect the odor twice within a period of an hour, if the odor causes a nuisance, and if the detection of odors is separated by at least fifteen minutes. Section 43 is a locally enforceable rule only.	Republic will not operate its facility in a manner which will cause odors. LVGS is a natural gas fired facility and is not expected to cause odors.	Republic complies with applicable requirements.
AQR Section 70.4	Emergency Procedures	Applicable – Republic submitted an emergency standby plan for reducing or eliminating air pollutant emissions in the Initial Operating Permit Application.	Republic submitted an emergency standby plan.	Republic complies with applicable requirements.
AQR Section 80	Circumvention	Applicable – Republic as a whole is subject. The rule stipulates that Republic will not conceal emission in any way at the source.	Republic will disclose all emissions as required by state and federal regulations.	Republic complies with applicable requirements.

Table V-D-2: Federal Air Quality Regulations Applicable to Republic

Citation	Title	Applicability	Applicable Test Method	Compliance Status
40 CFR Part 52.21	Prevention of Significant Deterioration (PSD)	Applicable – Republic PTE > 250 TPY	BACT analysis, air quality analysis using modeling, and visibility and additional impact analysis performed for original ATC permits.	Republic complies with applicable requirements.
40 CFR Part 52.1470	SIP Rules	Applicable – Republic is classified as a Title V source, and SIP rules apply.	Applicable monitoring and record keeping of emissions data.	Republic is in compliance with applicable state SIP requirements including monitoring and record keeping of emissions data.
40 CFR Part 60, Subpart A	NSPS – General Provisions	Applicable – Republic is an affected facility under the regulations.	Applicable monitoring, recordkeeping, and reporting requirements.	Republic complies with applicable requirements.
40 CFR Part 60, Subpart GG	NSPS – Stationary Gas Turbines	Not Applicable – The Republic turbines were constructed after February 18, 2005, and therefore are subject to 40 CFR 60, Subpart KKKK.	Not Applicable.	Not Applicable.
40 CFR Part 60, Subpart KKKK	NSPS – Stationary Gas Turbines	Applicable – The Republic turbines were constructed after February 18, 2005, and therefore are subject to this subpart.	Applicable emission standards, monitoring, testing, recordkeeping, and reporting requirements apply.	Republic complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
40 CFR Part 60	Appendix A, Method 9 or equivalent, (Opacity)	Applicable – emissions are subject to opacity standards	Opacity determined by EPA Method 9	Republic complies with applicable requirements.
40 CFR 62, Subpart OOO	Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction on or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014	Applicable – Republic operates a MSWL that commenced construction before July 17, 2014, and has accepted waste since November 8, 1987.	Applicable emissions and operating standards.	Republic complies with applicable requirements.
40 CFR Part 63, Subpart AAAA	NESHAP – Municipal Solid Waste Landfills	Applicable – Republic accepts MSW at the landfill and is a major source.	Applicable emissions and operating standards.	Republic complies with applicable requirements.
40 CFR Part 63, Subpart YYYY	NESHAP – Stationary Combustion Turbines	Applicable – Republic operates combustion turbines located at a major source of HAP emissions.	Applicable initial notification requirements and monitoring and reporting requirements.	Republic complies with applicable requirements.
40 CFR Part 64	Compliance Assurance Monitoring	Not Applicable – Republic does not operate an emission unit with uncontrolled emissions greater than any major source threshold that uses a control device and is subject to a federal emission standard.	Not Applicable.	Not Applicable.
40 CFR Part 70	Federally Mandated Operating Permits	Applicable – Republic is a major stationary source and under Part 70 the initial Title V permit application was submitted as required. Renewal applications are due between 6 and 18 months prior to expiration. Revision applications will be submitted within 12 months or commencing operation of any new emission unit.	Republic's existing Part 70 permit is dated July 1, 2018. This renewal application was submitted before the July 11, 2023, expiration. Applications for new units will be submitted within 12 months of startup.	Republic complies with applicable requirements.

E. PERMIT SHIELD

The permittee did not request a permit shield for any specific applicable requirement.

F. APPLICATION SHIELD

Since the permittee submitted a timely renewal application, by complying with the requirements of the existing Part 70 OP, the permittee shall be deemed compliant with applicable requirements as of the date of the permit issuance.

VI. EMISSION REDUCTION CREDITS (OFFSETS)

The source is subject to offset requirements in accordance with AQR 12.7. Offset requirements and associated mitigation are pollutant specific. This permitting action does not trigger any offset requirements.

VII. INCREMENT ANALYSIS

Apex Regional Landfill is a major source in Hydrographic Area 216 (Garnet Valley). Permitted emission units include landfill operations. Since minor source baseline dates for PM_{10} (December 31, 1980), NO_2 (January 24, 1991) and SO_2 (December 31, 1980) have been triggered, Prevention of Significant Deterioration (PSD) increment analysis is required.

DAQ modeled the source using AERMOD to track the increment consumption. The average of 2021 and 2022 actual emissions were used in the model. Stack data submitted by the applicant were supplemented with information available for similar emission units. On-site meteorological data collected at the source from July 2011 to July 2012 were used in the model. U.S. Geological Survey National Elevation Dataset terrain data were used to calculate elevations. Table VII-1 shows the location of the maximum impact and the potential PSD increment consumed by the source at that location. The impacts are below the PSD increment limits.

Table VII-1: PSD Increment Consumption

Pollutant	Averaging Period	Source's PSD Increment Consumption (µg/m³)	Location of Maximum Impact	
			UTM X (m)	UTM Y (m)
SO_2	3-hour	36.53[1]	689700	4025800
SO_2	24-hour	7.91[1]	690200	4025900
SO_2	Annual	1.24	689700	4026000
NO_X	Annual	1.51	689700	4026000
PM_{10}	24-hour	23.98[1]	689401	4028556
PM_{10}	Annual	9.99	689401	4028556

[1] Highest Second High Concentration.

VIII. ENVIRONMENTAL JUSTICE

Apex's location is in northeast Las Vegas, outside of the residential portion of the valley. The nearest Las Vegas residences are over 10 miles from the source. The border of the Moapa River Indian Reservation land is almost 8 miles away from the source, with residences even farther away. Using the EPA's Environmental Justice Screening and Mapping Tool (EJScreen) shows that this permitting action will not have an adverse or disparate effect on an underserved population when compared to the general population of Las Vegas.

A screenshot of the demographic index is shown in Attachment 7 and a graph of the environmental justice indexes comparing a 12 mile radius from the southern edge of Apex with the general United States is also in this attachment.

The area is either lower or similar percentiles for all the indexes. This can be attributed to the source being outside the main urban area of Las Vegas. This permitting action is not a significant increase in criteria pollutants and does not cause a significant impact to an underserved community which would warrant additional outreach.

IX. PUBLIC PARTICIPATION

Public participation is required for a Part 70 OP renewal per AQR 12.5.2.17.

X. ATTACHMENTS

See the following attachment for calculations.

Attachment 1: New Emission Unit Emissions

EU#	W230	**Horsepower:**	95		**Emission Factor (lb/hp-hr)**	**Control Efficiency**	**Potential Emissions**	
Make:	Isuzu	**Hours/Day:**	24.0				**lb/hr**	**ton/yr**
Model:	4JJ1X	**Hours/Year**	8760	**PM10**	3.29E-05	0.00%	0.01	0.01
S/N:	D17101000108			**NOx**	6.58E-04	0.00%	0.06	0.27
Manufacturer Guarantees				**CO**	8.22E-03	0.00%	0.78	3.43
PM10	0.02	g/kW-hr		**SO_2**	1.21E-05	0.00%	0.01	0.01
NOx	0.4	g/kW-hr		**VOC**	3.12E-04	0.00%	0.03	0.13
CO	5	g/kW-hr		**HAP**	4.52E-05	0.00%	0.01	0.02
SO_2		g/kW-hr						
VOC	0.19	g/kW-hr						
Engine Type:	Diesel			Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

EU#:	P05			**Emission Factor (lb/mmBtu)**	**Potential Emissions**		
Make:	Hurst				**lb/hr**	**lb/day**	**ton/yr**
Model:	S4-G-150-150		**PM10**	0.0077	0.05	1.16	0.21
S/N:			**NOx**	0.1421	0.89	21.40	3.91
			CO	0.082	0.51	12.35	2.25
6.3	mmBtu/hr		**SOx**	0.0000	0.01	0.01	0.01
24.0	hr/day		**VOC**	0.0109	0.07	1.64	0.30
8760	hr/yr		**HAP**	3.016E-05	0.01	0.01	0.02
PPM		**%Oxygen**					
	ppm NOx	3.0		AP42 - Source proposed calcs			
	ppm CO	3.0					
Fuel:	Propane						

Attachment 2: Updated Drilling Emissions (EU: A127)

EU	Rating	Description	Throughput (holes)		Pollutant	EF (lb/hole)	PTE	
			holes/day	holes/yr			lbs/hr	tons/yr
A127	NA	Drilling	21	7,750	PM_{10}	0.68	14.28	2.64
			21	7,750	$PM_{2.5}$	0.04	0.84	0.16

Attachment 3: Updated Turbine and Flare Emissions (EUs: E01 through E03)

EU	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_2	VOC	HAP
E01	6.65	6.65	32.85	66.58	26.44	9.64	0.43
E02	6.65	6.65	32.85	66.58	26.44	9.64	0.43
E03	0.88	0.88	1.05	3.50	2.00	0.19	0.03
Totals	**14.19**	**14.19**	**66.76**	**136.66**	**54.88**	**19.48**	**0.89**

Attachment 4: Open Flare Emissions (EU: G27)

EF

EUs	Description	Rating	Conditions	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP	H_2S
G27	Open Combustion Flare	57.6 MMBtu/hr 1,920 scfm	1,009,152,000 scf/yr	17.00	17.00	0.068	0.37	0.1026	0.0113	0.0050	0.0002
				lb/MMscf	lb/MMscf	lb/MMbtu	lb/MMbtu	lb/MMbtu	lb/MMbtu	lb/MMbtu	lb/MMbtu

lb/hr

EU	Description	Rating	Conditions	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP	H_2S
G27	Open Combustion Flare	57.6 MMBtu/hr 1,920 scfm	1,009,152,000 scf/yr	1.96	1.96	3.92	21.31	5.91	0.65	0.270	0.01

PTE (ton/yr)

EU	Description	Rating	Conditions	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP	H_2S
G27	Open Combustion Flare	57.6 MMBtu/hr 1,920 scfm	1,009,152,000 scf/yr	4.29	4.29	17.17	93.34	25.89	2.85	1.18	0.05

PTE (ton/yr)

EU	Description	Rating	Conditions	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP	H_2S
G27	Normal Operation	57.6 MMB	1,009,152,000 scf/yr	4.29	4.29	17.17	93.34	25.89	2.85	1.18	0.05
	Continuous Pilot	1.56 MMB	13,140,000 scf/yr	0.06	0.06	0.22	1.02	4.34	2.17	1.18	0.04
Totals				4.35	4.35	17.39	94.36	30.23	5.02	2.36	0.09

Attachment 5: Enclosed Flare Emissions (EU: W11)

Reduced Sulfur Compound Concentration obtained from the June 2005 LFG test for Sulfur Gases Using ASTM 4404.

$C_s = \Sigma C_p x S_p$

C_s = Concentration of Reduced Sulfur Compounds, ppmv as Sulfur (S)

C_p = Concentration of each Reduced Sulfur Compounds, ppmv

S_p = Number of moles of S produced form the Combustion of each Reduced Sulfur Compound (i.e., 1 for Sulfides, 2 for Disulfides)

Concentration of Reduced Sulfur Compounds C_s = 3,094 ppm or 3.094E-03 $\frac{lb-mol(S)}{lb-mol\ LFG}$

Reduced Sulfur Compounds detected in the June 2005 LFG sampling are Carbonyl sulfide, Hydrogen Sulfide, Methyl Mercaptan, and Dimethyl Sulfide, ppmv or ppmv/1E6 = lb-mol S

<u>SO_x EF:</u>

$$SO_2\ EF\ \frac{lbs}{scf} = \left(TRS\ Concentration\ \left[\frac{lb-mol}{lb-mol\ LFG}\right]\right)\left(\frac{lb-mol\ LFG}{386\ scf}\right)(Molecular\ Weight\ of\ \ (S))$$

$$(Ratio\ of\ SO_x{:}S)$$

Where Sulfur (S) Molecular Weight $= 32\ \frac{lb}{lb-mol}$ and the ratio of SO_x:S = $\frac{2\ lbs\ SOx}{1\ lb\ S}$

$$SO_2\ EF\ \frac{lbs}{scf} = \left(3.975E-03\frac{lb-mol(S)}{lb-mol\ LFG}\right)\left(\frac{lb-mol\ LFG}{386\ scf}\right)\left(\frac{32\ lbs}{lb-mol}\right)\left(\frac{2\ lbs\ SO_x}{lb\ S}\right)$$

$$= 6.59067E-04\frac{lbs\ SO_x}{scf}$$

$$\text{Or } \left(6.59067E-04\frac{lbs}{scf}\right)\left(\frac{scf}{0.0005\ MMBtu}\right) = 1.3181347\ \frac{lbs}{MMBtu}$$

SO_x EF (Uncontrolled H_2S):

- *Using Flare Flow Rate of 5,000 scfm (Maximum rated capacity for Flare)*

$$SO_x \frac{lbs}{hr} = \left(SO_x\ EF\ \left[\frac{lb}{MMBtu}\right]\right)\left(Flare\ Flow\ Rate\ \left[\frac{MMBtu}{hr}\right]\right)$$

$$SO_x \frac{lbs}{hr} = \left(1.32\ \frac{lbs}{MMBtu}\right)\left(136.605\ \frac{MMBtu}{hr}\right) = \mathbf{180.32\ \frac{lbs}{hr}}$$

$$SO_x \frac{tons}{yr} = \left(1.32 \frac{lbs}{MMBtu}\right)\left(136.605\ \frac{MMBtu}{hr}\right)\left(\frac{8{,}760\ hrs}{yr}\right)\left(\frac{ton}{2{,}000\ lbs}\right) = \mathbf{789.80 \frac{tons}{yr}}$$

$$SO_2\ EF\ \frac{lbs}{scf} = \left(TRS\ Concentration\ \left[\frac{lb-mol}{lb-mol\ LFG}\right]\right)\left(\frac{lb-mol\ LFG}{386\ scf}\right)(Molecular\ Weight\ of\ \ (S))$$

$$(Ratio\ of\ SO_x{:}S)$$

Where Sulfur (S) Molecular Weight $= 32\ \frac{lb}{lb-mol}$ and the ratio of SO_x:S $= \frac{2\ lbs\ SOx}{1\ lb\ S}$

$$SO_2\ EF\ \frac{lbs}{scf} = \left(3.094E-04 \frac{lb-mol(S)}{lb-mol\ LFG}\right)\left(\frac{lb-mol\ LFG}{386\ scf}\right)\left(\frac{32\ lbs}{lb-mol}\right)\left(\frac{2\ lbs\ SO_x}{lb\ S}\right)$$

$$= 5.13E-05 \frac{lbs\ SO_x}{scf}$$

$$\text{Or } \left(5.13E-05\ \frac{lbs}{scf}\right)\left(\frac{scf}{0.0005\ MMBtu}\right) = 0.1026\ \frac{lbs}{MMBtu}$$

- *Using Flare Flow Rate of 5,000 scfm (Maximum rated capacity for Flare)*

$$SO_x \frac{lbs}{hr} = \left(SO_x\ EF\ \left[\frac{lb}{MMBtu}\right]\right)\left(Flare\ Flow\ Rate\ \left[\frac{MMBtu}{hr}\right]\right)$$

$$SO_x \frac{lbs}{hr} = \left(0.1026\ \frac{lbs}{MMBtu}\right)\left(136.605 \frac{MMBtu}{hr}\right) = \mathbf{14.02\ \frac{lbs}{hr}}$$

$$SO_x \frac{tons}{yr} = \left(0.1026\ \frac{lbs}{MMBtu}\right)\left(136.605\ \frac{MMBtu}{hr}\right)\left(\frac{8{,}760\ hrs}{yr}\right)\left(\frac{ton}{2{,}000\ lbs}\right) = \mathbf{61.39\ \frac{tons}{yr}}$$

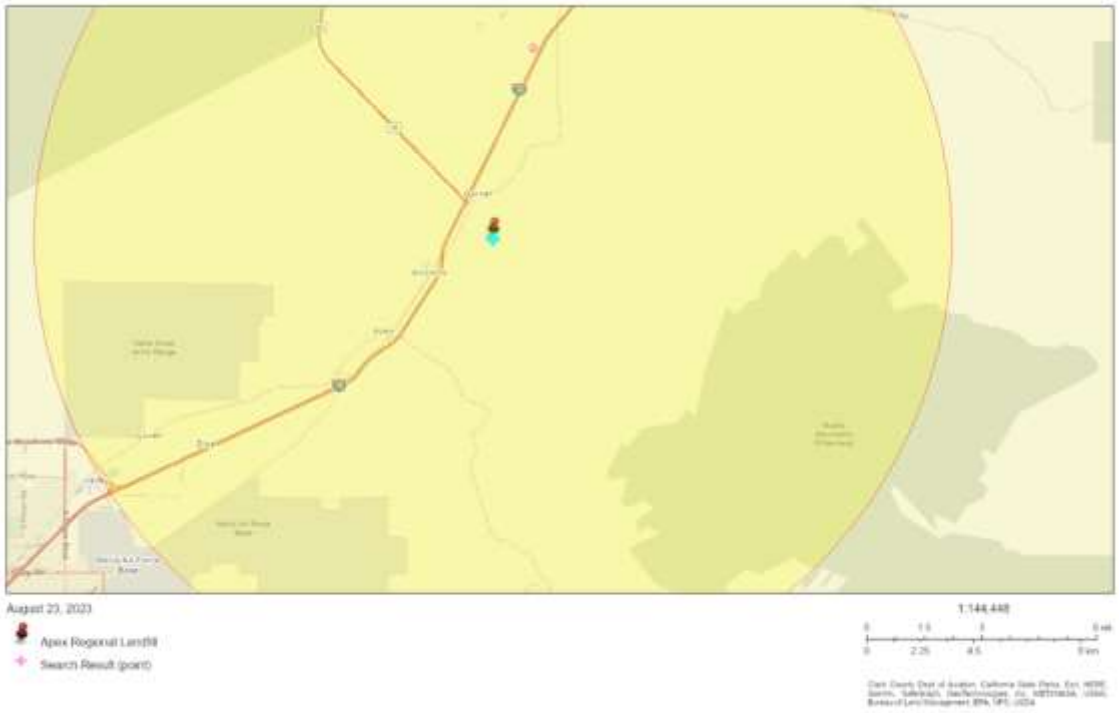
Attachment 6: Updated Propane Boiler Emissions (EU: P01)

EU#:	P01			Emission Factor (lb/mmBtu)	Potential Emissions		
Make:					lb/hr	lb/day	ton/yr
Model:			PM10	0.0077	0.04	0.92	0.17
S/N:			PM2.5	0.0077	0.04	0.92	0.17
			NOx	0.1421	0.71	17.05	3.11
5.0	mmBtu/hr		CO	0.0820	0.41	9.84	1.80
24.0	hr/day		SO_2	2.00E-04	0.01	0.02	0.01
8760	hr/yr		VOC	0.0109	0.05	1.31	0.24
			HAP	3.02E-05	0.01	0.01	0.01
Concetrations:		%O2	Lead	7.31E-10	3.65E-09	8.77E-08	1.60E-08
	ppm NOx	3.0					
	ppm CO	3.0					
Fuel:	Propane						

Attachment 7: Removed Emission Units PTE (tons/year)

EUs	Description	Conditions	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_2	VOC	HAP	H_2S	
W01	Soil Treatment Bulk Material Unloading, Material Transfer To And From Soil Treatment Cell	20,000 tons/yr	0.26	0.08	0.00	0.00	0.00	0.00	0.00	0.00	
W02	Soil treatment waste processing	20,000 tons/yr	0.00	0.00	0.00	0.00	0.00	2.78	0.00	0.00	
W214	250 hp Diesel Engine	8,760 hrs/yr	0.36	0.36	7.24	6.28	0.01	2.75	0.05	0.00	
W215	250 hp Diesel Engine	8,760 hrs/yr	0.36	0.36	7.24	6.28	0.01	2.75	0.05	0.00	
W217	175 hp Diesel Engine	8,760 hrs/yr	0.25	0.25	4.41	2.02	0.01	1.93	0.03	0.00	
W219	241 hp Diesel Engine	8,760 hrs/yr	0.03	0.03	3.47	6.07	0.01	0.33	0.05	0.00	
W222	173 hp Diesel Engine	8,760 hrs/yr	0.37	0.37	7.52	6.18	0.01	0.67	0.03	0	
W223	173 hp Diesel Engine	8,760 hrs/yr	0.03	0.03	0.50	6.18	0.01	0.23	0.03	0	
W224	173 hp Diesel Engine	8,760 hrs/yr	0.03	0.03	0.50	6.18	0.01	0.23	0.03	0	W222-W
W225	173 hp Diesel Engine	8,760 hrs/yr	0.03	0.03	0.50	6.18	0.01	0.23	0.03	0	Tipper En
W226	375 hp Diesel Engine	8,760 hrs/yr	0.05	0.05	1.09	13.40	0.02	0.51	0.03	0	
W227	172 hp Diesel Engine	8,760 hrs/yr	0.02	0.02	0.50	4.33	0.01	0.24	0.03	0.00	
W228	172 hp Diesel Engine	8,760 hrs/yr	0.02	0.02	0.50	4.33	0.01	0.24	0.03	0.00	
P01	5 MMBtu/hr Boiler	8,760 hrs/yr	0.17	0.17	3.11	1.8	0.35	0.24	0.01	0.00	
			1.95	**1.77**	**36.08**	**63.05**	**0.46**	**12.90**	**0.37**	**0.00**	

Attachment 8: EJ Screen Report



EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter ($\mu g/m^3$)	5.9	5.65	54	8.08	7
Ozone (ppb)	65.5	64.1	38	61.6	77
Diesel Particulate Matter ($\mu g/m^3$)	0.261	0.446	27	0.261	60
Air Toxics Cancer Risk* (lifetime risk per million)	20	24	12	25	5
Air Toxics Respiratory HI*	0.3	0.34	9	0.31	4
Toxic Releases to Air	410	1,400	73	4,600	43
Traffic Proximity (daily traffic count/distance to road)	99	200	44	210	56
Lead Paint (% Pre-1960 Housing)	0.00095	0.063	0	0.3	0
Superfund Proximity (site count/km distance)	0.0043	0.014	4	0.13	0
RMP Facility Proximity (facility count/km distance)	1.5	0.29	96	0.43	93
Hazardous Waste Proximity (facility count/km distance)	2.5	1.8	71	1.9	77
Underground Storage Tanks (count/km^2)	0.66	3.3	33	3.9	42
Wastewater Discharge (toxicity-weighted concentration/m distance)	1.6	7	92	22	92
SOCIOECONOMIC INDICATORS					
Demographic Index	49%	41%	65	35%	73
Supplemental Demographic Index	12%	16%	38	14%	45
People of Color	80%	50%	84	39%	83
Low Income	17%	33%	27	31%	32
Unemployment Rate	16%	7%	90	6%	92
Limited English Speaking Households	0%	6%	0	5%	0
Less Than High School Education	8%	14%	42	12%	51
Under Age 5	8%	5%	73	6%	73
Over Age 64	11%	17%	37	17%	31
Low Life Expectancy	18%	20%	18	20%	31

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.