

# TECHNICAL SUPPORT DOCUMENT

TECHNICAL INFORMATION PRESENTED IN REVIEW OF AN  
APPLICATION FOR AN AUTHORITY TO CONSTRUCT PERMIT

## APPLICATION SUBMITTED BY

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Las Vegas, Nevada 89104

## APPLICATION SUBMITTED IN CONSULTATION WITH

Catherine MacDougall  
CH2M Hill, Inc.

For

*Apex Waste Management Center*  
13550 US Highway 93 North  
Apex, Nevada 89124

**Part 70 Operating Permit Number: 395  
(ATC)**

SIC Code – 1442: Construction Sand and Gravel  
SIC Code - 4953: Refuse Systems



Clark County  
Department of Air Quality and Environmental Management  
Permitting Section

**October 22, 2013**

# Technical Support Document

**Preparer:** Lendis  
**Date:** May 15, 2013  
**Company:** Republic Dumpco, Inc.  
**Submitter:** Todd Whittle  
**Consultant:** Catherine MacDougall with CH2M Hill, Inc.  
**Source:** 395  
**Application Received:** February 26, 2013  
**Hydrographic Area:** 216 & 217  
**Subject:** Ambient air monitoring – PM<sub>10</sub>/H<sub>2</sub>S  
**Source Location:** Apex Waste Management Center  
13550 US Highway 93 North  
Apex, Nevada 89124  
T18S, R64E, S10 & 18 and T18S, R63E, S24

## A. Source Description

Republic Dumpco, Inc. is a municipal solid waste landfill and a producer of construction sand and gravel. The source operates under Standard Industrial Classification (SIC) Code 4953: Refuse Systems and SIC 1442: Construction Sand and Gravel and North American Industrial Classification System (NAICS) Code 562212: Solid Waste Landfill and NAICS 212321: Construction Sand and Gravel Mining.

The source meets or exceeds the major Part 70 source thresholds for PM<sub>10</sub>, NO<sub>x</sub>, SO<sub>x</sub>, HAP, and TCS (H<sub>2</sub>S) and is a minor source for PM<sub>2.5</sub>, CO and VOC in the Apex hydrographic basin.

## B. Permitting Action

The Source, Republic Dumbco, Inc. submitted an application on February 26, 2013 amending the Title V Operating Permit to remove the requirements for postconstruction ambient air monitoring of PM<sub>10</sub> and H<sub>2</sub>S. This application was submitted as a Minor Modification to the Title V Operating Permit, which was reclassified by Air Quality as a Significant Permit Revision pursuant to AQR 12.5.2.14(c)(1) and in accordance with AQR 12.5.2.14(a)(1)(B). Formal notice of the reclassification of this permitting action was issued to the Source by Air Quality on March 21, 2013.

This application was reviewed in accordance with AQR 12.5 and Air Quality's *Preconstruction and Postconstruction Ambient Air Monitoring Procedural Guideline for Stationary Sources*. The initial application was deemed incomplete, as various deficiencies were identified with regard to PM<sub>10</sub> and H<sub>2</sub>S monitoring. Formal notice of an incomplete application was issued to the Source by Air Quality on May 30, 2013.

The deficiencies of this application were discussed in further detail in a meeting with the representatives of Republic Dumpco, Inc. and Air Quality on June 11, 2013. Supplemental information was submitted by the Source on July 12, 2013 supporting the termination of H<sub>2</sub>S monitoring and rescinding the request to terminate PM<sub>10</sub> monitoring. Formal notice of a complete application was issued to the Source on August 26, 2013.

Two previous off-permit revisions are also being addressed in this permitting action. The date of submittal and nature of these revisions are outlined below:

- Submitted by Source December 9, 2011 – proposal to replace an existing engine (EU: W204) with one that is substantially similar in size and type (EU: W213);
- Submitted by Source October 15, 2012 – proposal to increase allowable landfill gas temperature in various wells on the basis that there is no indication of subsurface oxidation and anaerobic decomposition appears to be at normal levels.

As part of a gap-filling measure to address completeness and accuracy, the General Conditions of this Title V Operating Permit are being revised to reflect the most current standard language. Air Quality refined the standard Title V Operating Permit General Conditions after the current permit for Apex Waste Management Center was issued. Therefore, updates are being made to adequately convey applicable AQR requirements. The revisions to the General Conditions do not impose additional requirements that would otherwise be derived through the preconstruction review process.

Additionally, as the effective date for emission standards from 40 CFR 63, Subpart ZZZZ has expired, revisions were made to the Emission Controls section of the operating permit to remove references to May 3, 2013.

**Table 1: Acronyms and Abbreviations**

	Term
Air Quality	Clark County Department of Air Quality
AQR	Clark County Air Quality Regulations
ATC	Authority to Construct
CFR	United States Code of Federal Regulations
HAP	Hazardous Air Pollutant
H <sub>2</sub> S	Hydrogen Sulfide
PM <sub>2.5</sub>	Particulate Matter (2.5 microns)
PM <sub>10</sub>	Particulate Matter (ten microns)
NAAQS	National Ambient Air Quality Standard
NAC	Nevada Administrative Code
NAICS	North American Industry Classification System
NO <sub>x</sub>	Oxides of Nitrogen
SIC	Standard Industrial Classification
SO <sub>x</sub>	Oxides of Sulfur
TCS	Toxic Chemical Substance
TSD	Technical Support Document
VOC	Volatile Organic Compounds

### C. Calculation of PTE and Emission Increases

The source proposed an off-permit revision previous to this permitting action to replace an existing diesel powered electrical generator (EU: W204) with one of similar type and size (EU: W213). The emissions associated with this replacement resulted in a decrease to the PTE. Table 1 below compares the units and lists the difference in PTE:

**Table 1: Project Emission Increase (tons per year)**

EU	Rating	Conditions	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	SO <sub>x</sub>	VOC	H <sub>2</sub> S	Pb
W204 (existing)	1,108 HP	1,400 hrs/yr	0.29	0.29	9.93	1.67	0.22	0.26		
W213 (new)	1,072 HP	1,400 hrs/yr	0.17	0.17	9.86	1.11	0.01	0.21		
<b>Project Emission Increase</b>			<b>-0.12</b>	<b>-0.12</b>	<b>-0.07</b>	<b>-0.56</b>	<b>-0.21</b>	<b>-0.05</b>		

### D. Review of Applicable Regulations

The processing of this application is done in accordance with AQR 12.5, AQR 12.2.5.5 (amended 10/07/04), 12.2.19.2 (amended 10/07/04), 40 CFR 50, 40 CFR 53 and 40 CFR 58.

An application was submitted previously for the replacement of an existing diesel powered electrical generator (EU: W204) with a comparable unit (EU: W213). As both engines were manufactured prior to 2006 and are of similar size, the replacement unit is subject to the same federal requirements. The new generator is subject to the requirements of 40 CFR 63, Subpart ZZZZ.

### E. Ambient Air Monitoring

The monitoring of PM<sub>10</sub> and H<sub>2</sub>S was initially required in accordance with AQR 12.2.5.5 (amended 10/07/04) and 12.2.19.2 (amended 10/07/04), respectively. These requirements are currently specified in the Title V Operating Permit; condition III-C-20.

The Source collected PM<sub>10</sub> and H<sub>2</sub>S monitoring data for eight (8) consecutive quarters during the years 2010 to 2012. This data was submitted to Air Quality on a quarterly basis and included in the application for this permitting action. Data completeness is subject to the requirements of 40 CFR 50 and 58. Air Quality has determined the minimum requirement of 75% completeness has been satisfied.

The Source performed quality control (QC) and quality assurance (QA) measures throughout the monitoring period and included the associated documentation in the reports submitted to Air Quality on a quarterly basis. The third party audit results for each quarter beginning on the fourth quarter of 2010 and extending to the third quarter of 2012 was included in the application for this permitting action. The data QA/QC

measures are subject to the requirements of 40 CFR 58. Air Quality has determined the minimum requirements for QA/QC have been satisfied.

The initial (February 26, 2013) application contains summaries of data that reflect concentration readings in excess of the 24-hour standards for PM<sub>10</sub> (NAAQS) and H<sub>2</sub>S (NAC) during the two-year monitoring period. A justification for these excess concentration readings were submitted by the source as part of the application. These analyses were evaluated by Air Quality and a determination was made for each associated pollutant.

#### Monitored Emissions in Excess of the PM<sub>10</sub> Standard

The Source compares PM<sub>10</sub> emissions data that exceeded the NAAQS during the two-year monitoring period to wind speed, aggregate production activity, waste placement activity and blasting activity in the application. The application does not include wind-blown PM<sub>10</sub> emissions from disturbed surfaces and stockpiles. The statistical analyses attempt to demonstrate a lack of significant correlation between the PM<sub>10</sub> readings that exceed the standard and each operational activity listed above. The Source's conclusion states the concentration exceedances were related to natural occurrences.

Air Quality issued a request for further information supporting the conclusion that PM<sub>10</sub> concentration readings that exceeded the emission standard were related to natural occurrences. The application deficiencies are listed in the letter issued to the Source by Air Quality on May 30, 2013. As additional evaluation is necessary to address Air Quality's findings relating to PM<sub>10</sub> concentration exceedances, the Source has rescinded their request to remove postconstruction ambient air monitoring of PM<sub>10</sub> from their current Title V operating permit.

#### Monitored Emissions in Excess of the H<sub>2</sub>S Standard

The application summarizes several H<sub>2</sub>S concentration readings that exceed the NAC standard during a contemporaneous seven-hour timeframe within the two-year monitoring period. The initial application does not adequately support termination of H<sub>2</sub>S monitoring, as it fails to address why these concentration exceedances occurred. Air Quality issued a letter to the Source on May 30, 2013 requesting that they support their proposal to terminate H<sub>2</sub>S monitoring by providing justification for the concentration readings that exceeded the standard. Subsequently, the Source submitted supplemental information on July 12, 2013 that associates the elevated levels of H<sub>2</sub>S concentrations with a vehicle maintenance event that took place during the same period. The Source demonstrates the H<sub>2</sub>S concentration exceedances were a result of repairs performed on a truck that bore sewage waste in close proximity to the ambient air monitor. The Title V Operating Permit is being revised to remove H<sub>2</sub>S ambient air monitoring from its applicable requirements.

## F. Public Notice

This permitting action qualifies as a Significant Permit Revision and a full newspaper Notice of Public Action will be posted in the *Las Vegas Review Journal* pursuant to AQR 12.5.14(c)(2) and in accordance with AQR 12.5.2.10(a)(2) and AQR 12.5.2.17.

## G. Permitting History

1. The application was received on February 26, 2013
2. The application was deemed incomplete on May 30, 2013
3. Supplemental information was received on July 12, 2013
4. The application was deemed complete on August 26, 2013

## H. Attachments

1. Calcsheet for diesel powered electrical generator EUs W204 and W213.

EU#	W204		Horsepower:	1,108	Emission Factor (lb/hp-hr)	Potential Emissions			
Make:	Caterpillar	Hours/Day:	24.0	PM10		3.70E-04	0.41000	0.41	9.84
Model:	3412 CDITA	Hours/Year	1400	NOx	1.28E-02	14.19000	14.19	340.56	9.93
S/N:	2WJ02059	CO		SOx	2.15E-03	2.38000	2.38	57.12	1.67
Manufacturer Guarantees				VOC	2.80E-04	0.31000	0.31	7.44	0.22
PM10	0.41	lb/hr		HAP	3.34E-04	0.37000	0.37	8.88	0.26
NOx	14.19	lb/hr		<b>This unit is being replaced with EU: W213 as a Like-in-Kind</b>					
CO	2.38	lb/hr							
SOx	0.31	lb/hr							
VOC	0.37	lb/hr							
Engine Type:	Diesel								

EU#	W213		Horsepower:	1,072	Emission Factor (lb/hp-hr)	Potential Emissions			
Make:	Caterpillar	Hours/Day:	24.0	PM10		2.24E-04	0.24000	0.24	5.76
Model:	3412 CDITA	Hours/Year	1400	NOx	1.31E-02	14.08000	14.08	337.92	9.86
S/N:	2WJ1762	CO		SOx	1.47E-03	1.58000	1.58	37.92	1.11
Manufacturer Guarantees				VOC	1.21E-05	0.01301	0.01	0.31	0.01
PM10	0.24	lb/hr		HAP	2.80E-04	0.30000	0.30	7.20	0.21
NOx	14.08	lb/hr		<b>Nominal emission factors were used for consistent comparison with the engine that is being replaced.</b>					
CO	1.58	lb/hr							
SOx		g/hp-hr							
VOC	0.3	lb/hr							
Engine Type:	Diesel								