

**Bay Area Air Quality Management District**

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**Permit Evaluation  
and  
Statement of Basis  
For  
RENEWAL of**

**MAJOR FACILITY REVIEW PERMIT**

for  
**Tri-Cities Waste Management**

**Facility #A2246**

**Facility Address:**

7010 Auto Mall Parkway  
Fremont, CA 94538

**Mailing Address:**

7010 Auto Mall Parkway  
Fremont, CA 94538

January 2014

Application Engineer: Tamiko Endow  
Site Engineer: Tamiko Endow

Title V Renewal Application: 24421  
NSR Applications Included: 17060, 17332, 22571, 24095  
Title V Minor Revision Applications Included: 17061, 24096

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**Title V Statement of Basis**  
**Tri-Cities Waste Management**  
**Plant #A2246**  
**APPLICATION # 24421**

**A. BACKGROUND**

The Tri-Cities Recycling and Disposal Facility (TCRDF) is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a designated facility as defined by BAAQMD Regulation 2-6-204. The Standards of Performance for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart WWW) require the owner or operator of a landfill that is subject to this part and that has a design capacity of greater than or equal to 2.5 million mega grams and 2.5 million cubic meters to obtain an operating permit pursuant to Part 70. As discussed in more detail below in Section C.IV of this report, this facility is subject to this NSPS and meets the designated facility criteria listed in 40 CFR § 60.32c(c), and therefore is required to obtain and operate under a Major Facility Review/Title V permit pursuant to District Regulation 2-6-304.

Major Facility Operating permits (Title V permits) must meet the requirement of 40 CFR Part 70, as contained in BAAQMD Regulation 2, Rule 6. The permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility number that consists of a letter and a 4-digit number. This facility number is also considered to be the identifier for the permit. The identifier for this facility is A2246.

This facility received its initial Title V permit on November 28, 2001. The permit was revised five times after the initial issuance and renewed on November 2, 2007. Details of the previous revisions can be found in Section X of the permit "Revision History." Although the current permit expired on November 1, 2012, it continues in force until the District takes final action on TCRDF's permit renewal application, since TCRDF submitted the application for renewal by the deadlines set out in Section I.B of the permit.

Pursuant to Regulation 2, Rule 6, section 416, the District has reviewed the terms and conditions of this proposed Major Facility Review permit and determined that they are valid and correct. This review included an analysis of all applicability determinations for all sources. The review also included an assessment of the sufficiency of all monitoring for determination of compliance

with applicable requirements. The statements of basis for permit revisions that have occurred through the last revision of the Major Facility Review permit are hereby incorporated by reference and are available upon request. The District is proposing to renew the Major Facility Review permit, with all changes to the permit since the last revision identified in strikeout/underline format. These changes are discussed in this Statement of Basis.

## **B. FACILITY DESCRIPTION**

Tri-Cities Waste Management owns and operates the Tri-Cities Recycling and Disposal Facility (Facility Site # A2246), located in Fremont, CA. The permitted property encompasses about 225 acres. Of the total site area, 115 acres are permitted for municipal solid waste (MSW) disposal in a Class II/III landfill.

The S-1 Landfill began accepting waste in 1968. During the active waste acceptance period, this landfill accepted non-hazardous municipal solid waste, green waste, and some designated wastes, such as petroleum-contaminated soils. In May 1994, the landfill was issued a revised Solid Waste Facility Permit that approved an increase to the design capacity of the landfill. In accordance with 40 CFR §60.751, this 1994 design capacity expansion is considered a modification of the landfill. Therefore, the landfill became subject to the NSPS for MSW Landfills (40 CFR, Part 60, Subpart WWW). With the 1994 modification, the landfill permitted capacity was increased to 19.271 million cubic yards (about 13.5 million tons).

The landfill ceased accepting degradable waste on July 31, 2012. As of October 31, 2012, the landfill operator reported that this landfill contained a cumulative total of 12.8 million tons of refuse in place. Soil and inert waste was accepted through November 2013. Tri-Cities submitted a closure notification on December 20, 2013. The final cap was in place by December 31, 2013, and the remaining closure activities are projected to be completed by March 31, 2014.

The landfill is equipped with an active, continuously operated landfill gas collection system. Currently, all collected landfill gas is burned in the A-3 Landfill Gas Flare. A-3 is an enclosed ground flare with a maximum capacity of 75 MMBTU/hour or approximately 2,500 scfm of landfill gas. The facility operator has applied for and received Authorities to Construct for three landfill gas-fired engines to combust the landfill gas from this site and generate electricity for sale to the grid, however the proposed engines have not yet been installed. If the landfill gas engines are installed as planned, the landfill gas from this site will primarily be directed to the engines, with the flare used only for backup capacity to burn the landfill gas that cannot be burned at the engines. At the time the engines are installed and operating, the Major Facility Review/Title V permit for this site will be revised to include these sources.

Other than the landfill operation and landfill gas flare, the other operations at this facility include wood waste stockpiles and recycling operations, concrete and asphalt stockpile storage area/recycling operations, and a water truck.

## Emissions

The main source of air emissions at this facility is the landfill. Landfills generate significant fugitive particulate matter emissions due to waste disposal activities, vehicle traffic, cover material handling operations, and wind erosion. As this landfill recently closed, the majority of these particulate emissions are no longer being generated.

In addition, the waste decomposition process generates landfill gas. Landfill gas contains mainly methane, carbon dioxide, and small amounts of non-methane organic compounds (<1%) and sulfur compounds (<400 ppmv). Many of the non-methane organic compounds (NMOCs) found in landfill gas are precursor organic compounds (POC), and some NMOCs are hazardous air pollutants (HAP) and toxic air contaminants (TAC). District, state, and federal regulations require that landfill gas be collected and controlled to reduce emissions to the atmosphere. In order to meet these requirements, the landfill at this site is equipped with an active landfill gas collection system and a landfill gas control system, which reduce POC, HAP, TAC, and greenhouse gas (GHG) emissions.

Active landfill gas collection systems consist of perforated pipes that are buried in the refuse at numerous locations, solid pipes referred to as laterals and headers, and blowers. The perforated pipes are called horizontal collectors or vertical wells, depending on the orientation of the pipes within the refuse. The solid pipes connect the horizontal collectors and vertical wells to the blowers. The blowers collect landfill gas by creating a vacuum in the buried refuse that draws landfill gas into the pipes. The blowers vent this collected landfill gas to the landfill gas control system.

The landfill gas control system at this site currently includes the A-3 Landfill Gas Flare. Currently, all collected landfill gas is vented to this flare. The flare destroys most of the methane, organic compounds, sulfur compounds, and HAPs in the landfill gas, but also produces secondary combustion pollutants including: nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM), formaldehyde, and acid gases, such as hydrogen chloride and hydrogen fluoride.

As of the last issuance of the Permit to Operate for the landfill source, the collection system included 31 vertical gas collection wells and no horizontal collectors. The landfill operator reported an average of 1,940 cfm of landfill gas collected, as of October 2012.

The wood waste, concrete, and asphalt stockpiles and recycling operations are additional sources of particulate matter emissions at this facility, as well as HAP and TAC emissions from those compounds found in the concrete and asphalt, which are emitted during crushing, grinding, and handling of these materials. The facility does not have District permits for the portable equipment used to process these materials. The portable equipment used for this purpose is registered under the state's portable equipment registration program and is exempt from major facility review pursuant to BAAQMD Regulation 2-6-113.

Since the last renewal of the Title V permit, the District split the existing landfill source (S-1) into three source numbers (S-1, S-103, and S-104) based on the type of emissions and the type of activities that occur at landfills. These source description changes were necessary due to changes the District is making to its emission inventory calculation programs and due to an amendment of BAAQMD Regulation 3, Fees, Schedule K that was approved by the BAAQMD Board of Directors in June 2011. All active landfills in the Bay Area have undergone similar source description changes.

The new landfill source descriptions for this site were designated as follows:

S-1 Tri-Cities Landfill – Waste Decomposition Process; equipped with gas collection system and abated by A-3, Enclosed Landfill Gas Flare

S-103 Tri-Cities Landfill – Waste and Cover Material Dumping

S-104 Tri-Cities Landfill – Excavating, Bulldozing, and Compacting Activities

S-103 and S-104 encompass all of the active landfilling activities (vehicle travel on roads, material handling, wind erosion, etc.) that generate particulate emissions from the landfill. However, since the landfill is no longer accepting waste, the waste-related activities are no longer occurring at this site, so the active landfill activities represented by S-103 and S-104 have not been incorporated into the proposed Title V permit renewal.

The emissions from the District’s most recent emission inventory for the permitted sources at this facility have been summarized below in Table 1. The emissions were based on the operating data reported by the facility for the year ending October, 2012. Note that since S-24 was permitted in 2013, no annual operating data has been collected for this source for the represented year, so there are no emissions included in Table 1, and also note that S-103 and S-104 were active operations, so have been included in Table 1, although these sources are no longer active at this time.

**Table 1**  
**Site #A2246, Tri-Cities Recycling and Disposal Facility**  
**Actual Facility Emissions from Permitted Sources, Year Ending October 2012**

Source Number/Description	Emissions (tons/year)				
	PM10	VOC	NOx	SO2	CO
S-1, Landfill – Waste Decomposition	--	44.895	0.164	--	--
S-5, Woodwaste Stockpiles	0.002	--	--	--	--
S-24, Concrete and Asphalt Stockpiles	n/a	--	--	--	--
S-103, Landfill - Waste & Cover Material Dumping	2.263	--	--	--	--
S-104, Landfill – Excavating, Bulldozing, Compacting	1.132	--	--	--	--
A-3, Enclosed LFG Flare	1.515	1.369	15.348	4.289	77.161
<b>Total Facility Emissions</b>	<b>4.9</b>	<b>46.3</b>	<b>15.5</b>	<b>4.3</b>	<b>77.2</b>

For general comparison purposes, Table 2 below summarizes a reconstruction of the actual facility emissions from the District's emission inventory at the time the Title V permit for this site was renewed in 2007. These emissions were calculated based on usage data reported by TCRDF for the 12-month period ending October 2006. Note that the particulate emissions from waste and soil handling at the landfill were being calculated under the original landfill source number, S-1, at that time.

**Table 2**  
**Site #A2246, Tri-Cities Recycling and Disposal Facility**  
**Actual Facility Emissions from Permitted Sources, 2007 Permit Renewal**

Source Number/Description	Emissions (tons/year)				
	PM10	VOC	NOx	SO2	CO
S-1, Landfill	22.849	41.318	0	--	--
S-5, Wood Debris Stockpile	0.008	--	--	--	--
S-9, Portable Diesel Engine	0.004	0.004	0.056	0.001	0.012
S-10, Safety Kleen Parts Cleaner	--	0.055	--	--	--
S-14, Diesel Engine	0.003	0.003	0.036	0.001	0.008
S-15, Diesel Engine	0	0	0	0	0
S-16, Diesel Engine	0.002	0.002	0.029	0.001	0.006
S-17, Diesel IC Engine	0	0	0	0	0
A-3, Enclosed LFG Flare	1.247	1.117	12.472	3.509	63.191
<b>Total Facility Emissions</b>	<b>24.1</b>	<b>42.5</b>	<b>12.6</b>	<b>3.5</b>	<b>63.2</b>

Since the Title V Permit was renewed in 2007, the following New Source Review (NSR) permit applications were processed for TCRDF:

- AN 17060     Alternate temperature limit for specified gas collection wells
- AN 17332     Gas collection system component changes
- AN 22571     Gas collection system component changes and alternate standards for leachate collection system
- AN 24095     Construction and demolition debris stockpile
- AN 21444     3 New Landfill Gas-Fired Engines

All of the changes associated with these permit actions, except for Application 21444, have been incorporated into the proposed permit renewal. Under Application 21444, the District issued Authorities to Construct for a landfill gas to energy plant, consisting of 3 new landfill gas-fired engines. Since these sources have not yet been installed, they have not been included in the proposed renewal of the Major Facility Review/Title V operating permit. If those sources are installed and begin operating, the sources will be updated to the Title V permit for this facility separately, under the Title V permit revision procedures.

The emission changes due to the four other NSR applications have been summarized in Table 3 below:

**Table 3**  
**Site #A2246, Tri-Cities Recycling and Disposal Facility**  
**Permitted Emission Increases (tpy) Since 2007 Title V Permit Renewal**

Application	POC	NO <sub>x</sub>	SO <sub>2</sub>	CO	PM <sub>10</sub>
17060	None	None	None	None	None
17332	None	None	None	None	None
22571	None	None	None	None	None
24095	None	None	None	None	0.287

Since the total emission increases from the applications that have been permitted since the last Title V permit renewal are less than 1 ton per year on a per pollutant basis, the District concludes there has been no significant increase or change in the permitted pollutant levels at TCRDF since the Title V Permit was last renewed.

## C. PERMIT CONTENT

The legal and factual basis for the permit follows. The permit sections are described in the order that they are presented in the permit.

### I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for certain fossil-fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, the section will contain a standard condition pertaining to these programs. Many of these conditions derive from 40 CFR § 70.6, Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District's General Provisions and Permitting rules.

#### Changes to the Permit, Section I:

- The dates of adoption and approval of rules in Standard Condition 1.A have been updated. In addition, Regulation 2, Rule 5 and the SIP version of Regulation 2, Rule 6 have been added.
- The applicable dates in Standard Condition I.B.1 will be updated to reflect the issuance date of the renewal permit, and reference to District-generated compliance certification forms was removed from Condition I.G.

## II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S-1). Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Regulation 2-1-302. Each of the permitted sources has previously been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District's regulations.

The permitted sources are listed in Table II-A. The capacities in the permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

As discussed above, the District has split the existing active landfill source (S-1) into three source numbers (S-1, S-103, S-104). Source S-1 represents the waste decomposition process for this landfill and will include all greenhouse gas, NMOC, TAC, and HAP emissions that occur due to the decomposition of decomposable materials in the landfill. S-1 will continue to include the landfill gas collection system equipment, which is vented to the A-3 Enclosed Landfill Gas Flare. The waste and cover material dumping processes, which include particulate emissions resulting from material handling and delivery, were split out under source S-103. Source S-104 was added to the District's database to represent the excavating, bulldozing, and compacting activities that occurred at this landfill, while active. Since the landfill is no longer active, the new source descriptions for S-103 and S-104 have not been included in the proposed permit.

Significant sources are those sources that have a potential to emit of more than 2 tons of a "regulated air pollutant," as defined in BAAQMD Regulation 2-6-222, per year or 400 pounds of a "hazardous air pollutant," as defined in BAAQMD Regulation 2-6-210, per year. No significant sources have been reported at this facility.

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-3). If a source is also an abatement device, such as when an engine controls VOC emissions, it will be listed in the abatement device table but will have an "S" number. An abatement device may also be a source (such as a thermal oxidizer that burns fuel) of secondary emissions. If the primary function of a device is to control emissions, it is considered an abatement (or "A") device. If the primary function of a device is a non-control function, the device is considered to be a source (or "S").

The equipment section is considered to be part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit.

### Changes to the Permit, Section II:

- The description of the Tri-Cities Landfill (S-1) in Table II-A has been revised.
- Five diesel engines (S-9, S-14, S-15, S-16, and S-17) and one parts cleaner (S-10) were removed from service since the last permit renewal, so these sources have been removed from Table II-A.
- The recently permitted concrete and asphalt stockpile, S-24, has been added to Table II-A.

### III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. Unpermitted sources may, however, be specifically described in a Title V permit if they are considered *significant sources* pursuant to the definition in BAAQMD Rule 2-6-239. This facility has no unpermitted significant sources.

#### Changes to Permit, Section III:

- Editorial corrections were made to the text in this section.
- The dates of adoption or approval of the rules and their “federal enforceability” status have been updated.
- The following rules and standards have been added to conform to current practice:
  - SIP Regulation 2-1-429, Federal Emissions Statement
  - BAAQMD Regulation 6, Particulate Matter and Visible Emissions has been renamed and renumbered as Regulation 6, Rule 1, Particulate Matter - General Requirements
  - SIP Regulation 6, Particulate Matter and Visible Emissions
  - BAAQMD and SIP Regulation 8, Rule 3, Organic Compounds
  - BAAQMD and SIP Regulation 8, Rule 5, Organic Compounds – Storage of Organic Liquids
  - SIP Regulation 8, Rule 40, Organic Compounds – Aeration of Contaminated Soil and Removal of Underground Storage Tanks
  - SIP Regulation 8, Rule 47, Organic Compounds – Air Stripping and Soil Vapor Extraction Operations
  - BAAQMD Regulation 9, Rule 2, Inorganic Gaseous Pollutants – Hydrogen Sulfide
  - BAAQMD Regulation 11, Rule 3 was deleted.
  - California Health and Safety Code Section 93115, Airborne Toxic Control Measure for Stationary Compression Ignition Engines was deleted, as this regulation would be a specific requirement and listed in Section IV.

### IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules and Regulations

- SIP Rules (if any) are listed following the corresponding District regulations. SIP rules are District regulations that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are “federally enforceable” and a “Y” (yes) indication will appear in the “Federally Enforceable” column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the “Federally Enforceable” column will have a “Y” for “yes”. If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion is federally enforceable; the non-SIP version are not federally enforceable, unless EPA has approved it through another program.
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District’s or EPA’s websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

### New Complex Applicability Determinations

#### Applicability of 40 CFR Part 64, Compliance Assurance Monitoring

Sources at Title V facilities may be subject to the Compliance Assurance Monitoring (CAM) requirements in 40 CFR, Part 64. Three criteria specified in 40 CFR Part 64.2(a)(1-3) must be met for CAM to apply:

1. The source must be subject to a federally enforceable emission limit for a regulated air pollutant, other than an exempt limitation.
2. The source must use a control device to achieve compliance with this emission limitation.
3. The pre-controlled emissions of the specific pollutant being controlled must be greater than the major facility emissions threshold for that pollutant.

The District has reviewed applicability of the Compliance Assurance Monitoring (CAM) requirements in 40 CFR, Part 64, for this facility:

S-1, Tri-Cities Landfill – Waste Decomposition Process Equipped with Gas Collection System; abated by Landfill Gas Flare, A-3:

Landfills and landfill gas combustion equipment may also be subject to either the federal New Source Performance Standards (NSPS) for Municipal Solid Waste (MSW) Landfills or the Emission Guidelines (EG) for MSW Landfills. The federal NSPS for MSW Landfills (40 CFR Part 60, Subpart WWW) applies to landfills that have had a design capacity modification after May 30, 1991. As discussed previously, the 1994 design capacity increase to this landfill was considered a modification pursuant to 40 CFR § 60.751, bringing the design capacity of the

landfill to 19.271 million cubic yards (14.734 million m<sup>3</sup>) and about 13.5 million tons (12.25 million Mg) of waste and making the landfill subject to this NSPS (40 CFR, Part 60, Subpart WWW).

The NESHAP for Municipal Solid Waste Landfills (40 CFR 63, Subpart AAAA) was adopted in November 2002 with an effective date of January 16, 2003. Any landfills that are subject to the MSW Landfill NSPS or Emission Guidelines landfill gas collection and control requirements are also subject to this NESHAP. For landfills subject to the NESHAP at the date of adoption, the requirements became effective on January 16, 2004.

The exemption in Section 64.2(b)(1)(i) designates emission limitations or standards proposed after November 15, 1990 pursuant to Section 111 or 112 of the Clean Air Act from the CAM requirements. Since the NSPS and NESHAPS requirements for MSW Landfills (40 CFR Part 60, Subpart WWW and Part 63, Subpart AAAA, respectively) were adopted pursuant to Sections 111 and 112 of the Clean Air Act after November 15, 1990, these federal requirements have been deemed to contain adequate monitoring provisions, so additional compliance monitoring is not required under CAM. Therefore, the landfill waste decomposition process and its related emission control device (S-1 and A-3) are exempt from the first CAM applicability criteria, 40 CFR Part 64.2(a)(1), pursuant to 40 CFR Part 64.2(b)(1)(i).

Other sources: Woodwaste Stockpiles/Loadout (S-5), Concrete and Demolition Asphalt Stockpiles (S-24)

These operations emit fugitive PM<sub>10</sub>. Although water sprays are employed to reduce PM<sub>10</sub> emissions, these measures are more passive in nature and are intended to prevent PM<sub>10</sub> emissions from forming. Therefore, these emission controls do not constitute a control device as defined in Section 64.1. Also, the pre-control and post-control PM<sub>10</sub> emissions from these operations are fugitive in nature. Therefore, the second CAM applicability criteria does not apply.

Since S-5 and S-24 do not meet the second CAM applicability criteria - 40 CFR Part 64.2(a)(2), these sources are not subject to CAM.

#### Changes to the Permit, Section IV:

- Editorial corrections were made to the text of Section IV.
- The dates of adoption or approval of the rules and their “federal enforceability” status have been updated.
- Regulation 6 citations have been updated to the new numbering and name (now Regulation 6, Rule 1). A SIP citation of Regulation 6 has been added since the current District rule has been renumbered. Note that the standards are the same in both versions.
- The description of certain regulation sections have been expanded and corrected.
- Table IV-A: Regulation 8, Rules 2 and 40 were removed since the landfill has ceased accepting waste, including soil containing volatile organic compounds. The sections of Regulation 8, Rule 34 associated with fill activities have been removed and the closure report requirement added. The initial design capacity report in 40 CFR Part 60, Subpart WWW was removed since it has been met. 40 CFR Part 62, Subpart F has been added since it was adopted since the initial issuance of the permit for this site. The permit condition revisions approved pursuant to NSR applications have being incorporated

(Parts 20, 21, 22), and deletions proposed through this permit renewal have been noted (Parts 13 through 18).

- Tables IV-C and IV-D: The original Tables IV-C and IV-D have been deleted since these sources were removed from service.
- A new Table IV-C has been added for source, S-24, which was permitted since the last permit renewal.

## V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10, which provides that a major facility review permit shall contain the following information and provisions:

“409.10 A schedule of compliance containing the following elements:

- 10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;
- 10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and
- 10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.”

Since the District has not determined that the facility is out of compliance with an applicable requirement, the schedule of compliance for this permit contains only sections 2-6-409.10.1 and 2-6-409.10.2.

There has been no change to the compliance status at this facility.

### Changes to the Permit, Section V:

None.

## VI. Permit Conditions

Each permit condition is identified with a unique numerical identifier, up to five digits. The existing permit conditions are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

The regulatory basis is listed following each condition. The regulatory basis may be a rule or regulation. The District is also using the following terms for regulatory basis:

- **BACT:** This term is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- **Cumulative Increase:** This term is used for a condition imposed by the APCO that limits a source's operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- **Offsets:** This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- **PSD:** This term is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit issued pursuant to Regulation 2, Rule 2.
- **TRMP:** This term is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District's Toxic Risk Management Policy. This policy was replaced by Regulation 2, Rule 5 in 2005.

During the Title V permit development, the District has reviewed the existing permit conditions, deleted the obsolete conditions, and, as appropriate, revised the conditions for clarity and enforceability. While the District has authority to revise the existing permits, and is doing so here concomitantly with the Title V process, it also has authority to supplement the terms of existing permits through the Title V process itself. Additional monitoring has been added, where appropriate, to assure compliance with the applicable requirements.

#### Changes to the Permit, Section VI:

- In Condition #8366, Parts 1 and 3 have been revised to reflect that the landfill has ceased accepting waste.
- In Condition #8366, Part 2 the equipment (landfill gas well) count, as well as the associated permit applications, have been updated to reflect the most current changes approved under NSR permit application #22571.
- In Condition #8366, the equipment quarterly sulfur monitoring Part 12 was reduced from quarterly to annually since all quarterly monitoring from 2013 showed total reduced sulfur concentrations of less than 100ppmv. As the measured concentrations were significantly less than the 1300 ppmv limit, and since the sulfur concentrations will decline over time now that the landfill is closed, the District concurs with the facility's request for reduced monitoring.
- In Condition #8366, Parts 13 through 16 were deleted. These conditions were intended to control dust emissions from vehicular traffic and fill activities related to operation of the landfill. Since the landfill is now closed and these activities are no longer occurring, the District concurs with the facility's request for deletion of these conditions.
- In Condition #8366, Parts 17 and 18 were deleted since the landfill is no longer accepting and handling soil containing volatile organic compounds.
- In Condition #8366, Part 20 was added to reflect the alternate wellhead temperature limit and associated conditions approved for the landfill gas collection system under NSR permit application #17060.
- In Condition #8366, Part 21 was added to reflect the alternate wellhead oxygen limit and associated conditions approved for the leachate collection system under NSR permit application #22571.

- In Condition #8366, Part 22 was added to further clarify alternate temperature limit and the specific landfill gas collection system components that are subject to this limit.
- Conditions #17682 and 21617, which applied to S-10, and the 5 diesel engines S-9, S-14 through S-17, have been deleted since these sources have been removed from service.
- Condition #25393, which applies to S-24, permitted under NSR permit application #24095, has been added.

All changes to existing permit conditions are clearly shown in “strike-out/underline” format in the proposed permit. When the permit is issued, all ‘strike-out’ language will be deleted; all “underline” language will be retained.

## **VII. Applicable Limits and Compliance Monitoring Requirements**

This section of the permit is a summary of numerical limits and related monitoring requirements for each source. The summary includes a citation for each monitoring requirement, frequency of monitoring, and type of monitoring. The applicable requirements for monitoring are contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

Monitoring decisions are typically the result of a balancing of several different factors including: 1) the likelihood of a violation given the characteristics of normal operation, 2) the degree of variability in the operation and in the control device, if there is one, 3) the potential severity of impact of an undetected violation, 4) the technical feasibility and probative value of indicator monitoring, 5) the economic feasibility of indicator monitoring, and 6) some other factor, such as a different regulatory restriction applicable to the same operation, that also provides some assurance of compliance with the limit in question.

These factors are the same as those historically applied by the District in developing monitoring for applicable requirements. It follows that, although Title V calls for a re-examination of all monitoring, there is a presumption that these factors have been appropriately balanced and incorporated in the District’s prior rule development and/or permit issuance. When a rule or permit requirement has historically had no monitoring associated with it, no monitoring may still be appropriate in the Title V permit if, for instance, there is little likelihood of a violation. Compliance behavior and associated costs of compliance are determined in part by the frequency and nature of associated monitoring requirements. As a result, the District will generally revise the nature or frequency of monitoring only when it can support a conclusion that existing monitoring is inadequate.

The tables below list only the emission limits for which there is no monitoring in the applicable requirements. For each emission limit without corresponding monitoring, the analysis of the individual source compliance status has been documented. If a determination of inadequate monitoring was found, additional monitoring would be proposed through this permit renewal. However, in the cases identified below, no additional monitoring is being recommended for the reasons identified. The District has examined the monitoring for all other emission limits and has determined that monitoring is adequate to provide a reasonable assurance of compliance.

**Table 4**  
**SO<sub>2</sub> Emission Limits with No Associated Monitoring**  
**Site #A2246, Tri-Cities Recycling and Disposal Facility**

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1, Tri-Cities Landfill and A-3, Landfill Gas Flare	BAAQMD 9-1-301	Property Line Ground Level Limits: ≤ 0.5 ppm for 3 minutes, AND ≤ 0.25 ppm for 60 minutes, AND ≤ 0.05 ppm for 24 hours	None

**SO<sub>2</sub> Discussion:**

Burning of fuel that contains sulfur compounds will result in emissions of sulfur dioxide (SO<sub>2</sub>) as a product of that combustion. The landfill gas burned at the flare at this facility contains small levels of sulfur compounds which will contribute to ground level concentrations of SO<sub>2</sub>.

BAAQMD Regulation 9-1-301

Area monitoring to demonstrate compliance with the ground level SO<sub>2</sub> concentration limitations of Regulation 9-1-301 is required at the discretion of the APCO (per BAAQMD Regulation 9-1-501). Since the ground level monitoring is expensive, such monitoring is not required if the expected levels of SO<sub>2</sub> emissions are low, resulting in a large expected margin of compliance with the emission limit.

A-3 Landfill Gas Flare: The emissions of SO<sub>2</sub> in the flue gas from the flare A-3 are limited to 300 ppm, per Regulation 9-1-302. A sulfur concentration of 1422 ppm converts to 300 ppm SO<sub>2</sub> in the flue gas at 0% excess oxygen, so compliance with Regulation 9-1-302 is monitored through a surrogate limit of 1300 ppm total sulfur compound in the landfill gas. District source tests indicate that the actual concentrations of total reduced sulfur in typical Bay Area landfill gas are less than 400 ppmv. Total reduced sulfur in the landfill gas from the Tri-Cities Landfill was measured to be less than 80 ppm in the March 2013 source test, and this corresponds to flue gas concentrations under 7 ppm SO<sub>2</sub>.

H<sub>2</sub>S Concentration in Landfill gas to achieve 300 ppm SO<sub>2</sub> in Flue Gas

Basis: 300 ppm SO<sub>2</sub> in flue gas (FG) @ 0% excess oxygen

F Factor (@ 0% oxygen) = 4.7356 scf FG/scf LFG (based on 490 Btu/scf @ ~49.5% methane)

$$S \text{ in LFG} = (300 \text{ cu ft SO}_2 / 1E6 \text{ cu ft FG})(4.7356 \text{ cu ft FG/cu ft LFG}) = 1421 \text{ ppm S in LFG}$$

Regarding ground level concentrations of SO<sub>2</sub> at the property line, computer modeling studies have shown that facilities that are in compliance with the 300 ppm SO<sub>2</sub> standard (Regulation 9-1-302) are not expected to exceed the ground level concentration standards in Regulation 9-1-301. Therefore, no further monitoring for Regulation 9-1-301 is recommended at this time.

**Table 5**  
**PM Emission Limits with No Associated Monitoring**  
**Site #A2246, Tri-Cities Recycling and Disposal Facility**

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
A-3 Landfill Gas Flare	BAAQMD 6-1-301 and SIP 6-301	Ringelmann 1.0	None
A-3 Landfill Gas Flare	BAAQMD 6-1-310 and SIP 6-310	≤0.15 grains/dscf	None

**PM Discussion:**

A-3 Landfill Gas Flare:

BAAQMD Regulation 6-1-301 and SIP Regulation 6-301 limit visible emissions to no darker than 1.0 on the Ringelmann Chart, except for periods or aggregate periods less than 3 minutes in any hour. Visible emissions are normally not associated with proper combustion of gaseous fuels. Since A-3 burns only landfill gas and propane, no monitoring is required to assure compliance with this limit.

BAAQMD Regulation 6-1-310 and SIP Regulation 6-310 limit filterable particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume.

Maximum potential PM emissions for A-3 were based on the AP-42 emission factor for landfill gas-fired flares (17 lbs PM<sub>10</sub>/MM dscf of methane). Assuming the landfill gas contains 50% methane with an HHV of 497 BTU/scf LFG and produces 4.773 scdf of exhaust at 0% oxygen per scf of landfill gas burned, maximum calculated emissions, as shown below, are less than 5 ton/yr. with a resulting PM concentration in the flue gas of 0.013 gr/dscf. As this is far less than the Regulation 6-1-310 limit, no monitoring is required for A-3 to demonstrate compliance with this limit.

$$\text{PM Factor: } (17 \text{ lbs PM}_{10}/\text{MM dscf CH}_4)/(\text{1E6 scf CH}_4/\text{MM dscf CH}_4) * (0.50 \text{ scf CH}_4/\text{scf LFG}) / (497 \text{ BTU}/\text{scf LFG}) * (\text{1E6 BTU}/\text{MM BTU}) = 0.0171 \text{ lbs PM}_{10}/\text{MM BTU}$$

$$\text{PM Concentration: } [(0.0171 \text{ lb PM}/\text{MM Btu})(7000 \text{ gr}/\text{lb})(1 \text{ MM Btu}/\text{1E6 BTU})(497 \text{ Btu}/\text{scf})]/(4.736 \text{ cu ft flue gas}/\text{cu ft LFG, @ 0\% O}_2) = 0.013 \text{ gr}/\text{dscf}$$

**Table 6**  
**H<sub>2</sub>S Emission Limits with No Associated Monitoring**  
**Site #A2246, Tri-Cities Recycling and Disposal Facility**

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1, Tri-Cities Landfill A-3, Landfill Gas Flare	BAAQMD 9-2-301	Property Line Ground Level Limits of H <sub>2</sub> S ≤ 0.06 ppm Averaged over 3 minutes AND ≤ 0.03 ppm Averaged over 60 minutes	None

## **H<sub>2</sub>S Discussion:**

### BAAQMD Regulation 9-2-301

Area monitoring to demonstrate compliance with the ground level H<sub>2</sub>S concentration limitations of Regulation 9-2-301 is required at the discretion of the APCO (per BAAQMD Regulation 9-1-501). This regulation is a non-federally enforceable requirement.

The H<sub>2</sub>S emissions near this site are a result of fugitive emissions from the landfill. Hydrogen sulfide can be detected by its odor at concentrations as low as 0.0005 ppmv and is generally identified by its characteristic rotten egg smell a concentration of 0.005 ppmv or less. Therefore, hydrogen sulfide emissions are typically discovered by smell well before the concentration approaches the lowest 9-2-301 emission limit of 0.03 ppmv. Since odor complaints are uncommon for this site, monitoring is not recommended at this time.

### Changes to the Permit, Section VII:

- Symbols ( $\leq$  or  $\geq$ , as applicable) have been added to all Section VII tables to clarify limits.
- Citation of the SIP version of Regulation 6 has been added, since the District Regulation 6 has been renumbered to Regulation 6, Rule 1. Note that both rules contain the same standards.
- Text was added to clarify limits.
- Table VII-A: Emission limits related to the acceptance of VOC laden or contaminated soil were removed, as these activities have ceased. Road and landfill watering requirements (Permit Condition #8366, Parts 13-16) were removed, since these conditions have been proposed for deletion now that the landfill is no longer accepting and placing waste. The change from quarterly to annual sulfur content monitoring proposed has been noted. The new alternative wellhead limits (Condition #8366, Parts 20-22) were added
- Table VII-C for the Parts Cleaner S-10 has been removed since this source was removed from service.
- Table VII-D for the Portable Diesel Engines S-9, S-14 through S-17 has been removed since these sources were removed from service.
- A new Table VII-C for the recently permitted Concrete and Asphalt Stockpile Area S-24 has been added.

## **VIII. Test Methods**

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

Changes to Permit, Section VIII:

- The Regulation 6, Rule 1 reference has been updated and reference to the SIP version of Regulation 6 has been added.
- Obsolete test methods were removed.
- References to Regulation 8, Rule 34; and Regulation 9, Rule 1 were clarified.
- The test method for Condition #8366, Part 15 and Condition #15022, Part 2 has been clarified.
- The test methods for Condition #8366, Parts 15, 17, and 18 were removed since deletion of these requirements has been proposed.
- The test methods for the alternative wellhead limits in Condition #8366, Parts 20 and 21 were added.
- The test method for Condition #21617 was removed since the sources have been removed from service.

**IX. Permit Shield**

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in an MFR permit explaining that specific federally enforceable regulations and standards that are not applicable to a source or group of sources, or (2) A provision in an MFR permit explaining that specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting are subsumed because other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of permit shield for all streamlining of monitoring, record keeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

Changes to the Permit, Section IX:

- Table IX-A has been deleted, as the requirements of Regulation 8-2 and Regulation 8-40 no longer apply to the landfill, since the landfill is no longer accepting VOC-laden or contaminated soil.

**X. Revision History**

This section of the permit summarizes each revision to the permit.

Changes to the Permit, Section X:

- The permit revisions associated with this proposed renewal were added to Section X.

## **XI. Glossary**

This section of the permit defines and explains acronyms, abbreviations, and other terms that are used in this permit.

### Changes to the Permit, Section XI:

- The glossary was updated by clarifying explanations and adding numerous new terms.

## **D. ALTERNATIVE OPERATING SCENARIOS**

No alternate operating scenario has been requested for this facility.

## **E. COMPLIANCE STATUS**

The responsible official for Tri-Cities Waste Management submitted a signed Certification Statement form with submittal of the application for renewal of the Title V permit, dated April 27, 2012, and an updated signed Certification Statement, dated January 7, 2014. On this form, the responsible official certified that the following four statements are true:

Based on information and belief formed after reasonable inquiry, the source(s) identified in the Applicable Requirements and Compliance Summary form that is(are) in compliance will continue to comply with the applicable requirement(s);

Based on information and belief formed after reasonable inquiry, the source(s) identified in the Applicable Requirements and Compliance Summary form will comply with future-effective applicable requirement(s), on a timely basis;

Based on information and belief formed after reasonable inquiry, information on application forms, all accompanying reports, and other required certifications is true, accurate, and complete;

All fees required by Regulation 3, including Schedule P have been paid.

## **F. DIFFERENCES BETWEEN THE APPLICATION AND THE PROPOSED PERMIT**

The Title V permit renewal application was received on April 27, 2012. This application and the previous permit are the basis for constructing the proposed Title V permit. All differences between the Title V renewal application and the proposed permit have been discussed in this Permit Evaluation and Statement of Basis.

The following NSR applications have been discussed in this Statement of Basis and included in the proposed renewal of the Title V Permit:

- Permit Application 17060 requesting alternate temperature limits for specified gas collection wells was received on November 8, 2007 and the change of condition was issued on March 6, 2008.

- Permit Application #17322 requesting approval of gas collection system component changes was received on February 2, 2008 and the Authority to Construct was issued on March 20, 2008.
- Permit Application #22571 requesting approval of gas collection system component changes and alternate operating standards for leachate collection system components was received on September 8, 2010 and the Change of Conditions was issued on January 1, 2011.
- Permit Application #24095 requesting a Permit to Operate a construction and demolition debris stockpile was received on January 10, 2012 and the Permit to Operate was issued on November 17, 2012.

The following NSR application for this site has not been included in this proposed permit renewal:

- Permit Application #21444 requesting Authorities to Construct 3 landfill gas-fired engines was received on December 28, 2009, and Authorities to Construct were issued on March 12, 2013. As these engines have not been installed at this time, these sources have not been proposed for inclusion in the renewed Title V permit. When the engines are installed and operating, the sources will be added to the permit under the permit revision procedures through Title V Application #21445.

Permit Evaluation and Statement of Basis:  
Application 24421, Title V Permit Renewal

Site A2246, Tri-Cities Waste Management  
7010 Auto Mall Parkway, Fremont, CA 94538

H:\Engineering\TITLE V Permit Appls\1 ALL T5 Application Files here\A2246\Renewal 2013 - 24421\3.0 Proposed - Public  
Notice\A2246\_proposedSOB\_1-21.14.doc

## APPENDIX A

### GLOSSARY

**ACT**

Federal Clean Air Act

**AP-42**

An EPA Document “Compilation of Air Pollution Emission Factors” that is used to estimate emissions from numerous source types. It is available electronically from EPA’s web site at: <http://www.epa.gov/ttn/chief/ap42/index.html>

**APCO**

Air Pollution Control Officer: Head of Bay Area Air Quality Management District

**API**

American Petroleum Institute

**ARB**

Air Resources Board (same as CARB)

**ASTM**

American Society for Testing and Materials

**ATC**

Authority to Construct

**ATCM**

Airborne Toxic Control Measure

**BAAQMD**

Bay Area Air Quality Management District

**BACT**

Best Available Control Technology

**BARCT**

Best Available Retrofit Control Technology

**Basis**

The underlying authority that allows the District to impose requirements.

**BDT**

Best Demonstrated Technology

**C1**

An organic chemical compound with one carbon atom, for example: methane

**C3**

An organic chemical compound with three carbon atoms, for example: propane

**C5**

An Organic chemical compound with five carbon atoms

**C6**

An Organic chemical compound with six carbon atoms

**CAA**

The federal Clean Air Act

**CAAQS**

California Ambient Air Quality Standards

**CAPCOA**

California Air Pollution Control Officers Association

**CARB**

California Air Resources Board (same as ARB)

**CCR**

California Code of Regulations

**CEC**

California Energy Commission

**CEQA**

California Environmental Quality Act

**CEM**

A "continuous emission monitor" is a monitoring device that provides a continuous direct measurement of some pollutant (e.g. NO<sub>x</sub> concentration) in an exhaust stream.

**CFR**

The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

**CH<sub>4</sub> or CH<sub>4</sub>**

Methane

**CO**

Carbon Monoxide

**CO<sub>2</sub> or CO<sub>2</sub>**

Carbon Dioxide

**CT**

Combustion Zone Temperature

**Cumulative Increase**

The sum of permitted emissions from each new or modified source since a specified date. Used to determine whether threshold-based requirements are triggered.

**District**

The Bay Area Air Quality Management District

**dscf**

Dry Standard Cubic Feet

**dscm**

Dry Standard Cubic Meter

**E 6, E9, E12**

Very large or very small number values are commonly expressed in a form called scientific notation, which consists of a decimal part multiplied by 10 raised to some power. For example, 4.53 E 6 equals  $(4.53) \times (10^6) = (4.53) \times (10 \times 10 \times 10 \times 10 \times 10 \times 10) = 4,530,000$ . Scientific notation is used to express large or small numbers without writing out long strings of zeros.

**EG**

Emission Guidelines

**EGT**

Exhaust Gas Temperature

**EO**

Executive Order

**EPA**

The federal Environmental Protection Agency.

**Excluded**

Not subject to any District regulations.

**Federally Enforceable, FE**

All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60, (NSPS), Part 61, (NESHAPs), Part 63 (HAP), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

**FP**

Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

**FR**

Federal Register

**GDF**

Gasoline Dispensing Facility

**GLC**

Ground level concentration.

**GLM**

Ground Level Monitor

**grains**

1/7000 of a pound

**H<sub>2</sub>S or H<sub>2</sub>S**

Hydrogen Sulfide

**H&SC**

Health and Safety Code

**HAP**

Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by 40 CFR Part 63.

**Hg**

Mercury

**HHV**

Higher Heating Value. The quantity of heat evolved as determined by a calorimeter where the combustion products are cooled to 60F and all water vapor is condensed to liquid.

**LFG**

Landfill gas

**LHV**

Lower Heating Value. Similar to the higher heating value (see HHV) except that the water produced by the combustion is not condensed but retained as vapor at 60 °F.

**Major Facility**

A facility with potential emissions of: (1) at least 100 tons per year of regulated air pollutants, (2) at least 10 tons per year of any single hazardous air pollutant, and/or (3) at least 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity of hazardous air pollutants as determined by the EPA administrator.

**MAX or Max.**

Maximum

**MFR**

Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Federal Clean Air Act and implemented by District Regulation 2, Rule 6.

**Mg**

Mega (million) gram

**MIN or Min.**

Minimum

**MOP**

The District's Manual of Procedures.

**MSDS**

Material Safety Data Sheet

**MSW**

Municipal solid waste

**MSWL**

Municipal solid waste landfill

**MTBE**

methyl tertiary-butyl ether

**MW**

Molecular weight

**N2 or N<sub>2</sub>**

Nitrogen

**NA**

Not Applicable

**NAAQS**

National Ambient Air Quality Standards

**NESHAPS**

National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63

**NMHC**

Non-methane Hydrocarbons (Same as NMOC)

**NMOC**

Non-methane Organic Compounds (Same as NMHC)

**NO<sub>x</sub> or NO<sub>x</sub>**

Oxides of nitrogen.

**NSPS**

Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

**NSR**

New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

**O<sub>2</sub> or O<sub>2</sub>**

Oxygen

**Offset Requirement**

A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NO<sub>x</sub>, PM<sub>10</sub>, and SO<sub>2</sub>.

**Phase II Acid Rain Facility**

A facility that generates electricity for sale through fossil-fuel combustion and is not exempted by 40 CFR 72 from Titles IV and V of the Clean Air Act.

**POC**

Precursor Organic Compounds

**PM**

Particulate Matter

**PM<sub>10</sub> or PM<sub>10</sub>**

Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

**PSD**

Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

**PV or P/V Valve**

Pressure/Vacuum Valve

**Regulated Organic Liquid**

"Regulated organic liquids" are those liquids which require permits, or which are subject to some regulation, when processed at a liquid-handling operation. For example, for refinery marine terminals, regulated organic liquids are defined as "organic liquids" in Regulation 8, Rule 44.

**RMP**

Risk Management Plan

**RWQCB**

Regional Water Quality Control Board

**S**

Sulfur

**SCR**

A "selective catalytic reduction" unit is an abatement device that reduces NO<sub>x</sub> concentrations in the exhaust stream of a combustion device. SCRs utilize a catalyst, which operates at a specific temperature range, and injected ammonia to promote the conversion of NO<sub>x</sub> compounds to nitrogen gas.

**SIP**

State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

**SO<sub>2</sub> or SO<sub>2</sub>**

Sulfur dioxide

**SO<sub>3</sub> or SO<sub>3</sub>**

Sulfur trioxide

**SSM**

Startup, Shutdown, or Malfunction

**SSM Plan**

A plan, which states the procedures that will be followed during a startup, shutdown, or malfunction, that is prepared in accordance with the general NESHAP provisions (40 CFR Part 63, Subpart A) and maintained on site at the facility.

**TAC**

Toxic Air Contaminant (as identified by CARB)

**THC**

Total Hydrocarbons (NMHC + Methane)

**therm**

100,000 British Thermal Unit

**Title V**

Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

**TOC**

Total Organic Compounds (NMOC + Methane, Same as THC)

**TPH**

Total Petroleum Hydrocarbons

**TRMP**

Toxic Risk Management Policy

**TRS**

Total Reduced Sulfur

**TSP**

Total Suspended Particulate

**TVP**

True Vapor Pressure

**VMT**

Vehicle Miles Traveled

**VOC**

Volatile Organic Compounds

**Symbols:**

<	=	less than
>	=	greater than
≤	=	less than or equal to
≥	=	greater than or equal to

**Units of Measure:**

atm	=	atmospheres
bbl	=	barrel of liquid (42 gallons)
bhp	=	brake-horsepower
btu	=	British Thermal Unit
BTU	=	British Thermal Unit
°C	=	degrees Centigrade
cfm	=	cubic feet per minute
dscf	=	dry standard cubic feet
°F	=	degrees Fahrenheit
ft <sup>3</sup>	=	cubic feet
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
gr	=	grains (7000 grains = 1 pound)
hp	=	horsepower
hr	=	hour
in	=	inches
kg	=	kilograms
kW	=	kilowatts
lb	=	pound

lb-mol	=	pound-mole
M	=	thousand
m <sup>2</sup>	=	square meter
m <sup>3</sup>	=	cubic meters
Mg	=	mega-grams (1000 kg)
min	=	minute
mm	=	millimeter
MM	=	million
MMBTU	=	million BTU
MMcf	=	million cubic feet
mm Hg	=	millimeters of mercury (pressure)
MW	=	megawatts
ppb	=	parts per billion
ppbv	=	parts per billion, by volume
ppbw	=	parts per billion, by weight
ppm	=	parts per million
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scf	=	standard cubic feet
scfm	=	standard cubic feet per minute
sdcf	=	standard dry cubic feet
sdcfm	=	standard dry cubic feet per minute
therms	=	1 therm = 100,000 BTU
yd	=	yard
yd <sup>3</sup>	=	cubic yards
yr	=	year

## APPENDIX B

### PERMIT APPLICATION ENGINEERING EVALUATIONS

Engineering Evaluations for the following permit applications are attached to the Statement of Basis in this Appendix.

<u>AN</u>	<u>TITLE</u>
17060	Change of Conditions
17322	Modification to landfill gas collection system configuration
22571	Change of Conditions
24095	Concrete/Asphalt Stockpile

## **Engineering Evaluation Report**

Tricities Recycling, P#2246  
7010 Auto Mall Parkway, Fremont  
Application #17060

### **Background**

Tricities Recycling (Tricities) has requested approval of a maximum operating temperature of 145 degreesF at Wells 103 and 114. Temperatures close to the limit of 131 degreesF specified in District Regulation 8, Rule 34 were measured in October of this year. Subsequent monitoring has shown that the wells appear to be operating as designed, producing gas with methane levels of greater than 50% with corresponding low oxygen, carbon monoxide, and balance gas concentrations.

### **S-1, Landfill with Gas Collection System, 37 vertical gas extraction wells abated by A-3, Enclosed Landfill Gas Flare**

### **Emission Calculations**

Landfills are sources of air emissions, including particulate matter from the handling of waste, excavation and compaction activities, as well as vehicular traffic across paved and unpaved roads. Landfill gas control equipment, as well as delivery vehicles and onsite mobile construction equipment, also generate combustion emissions from the combustion of fuel. The decomposition of waste in the landfill generates emissions of methane and volatile organic compounds, which is emitted in the form of fugitive leaks from uncollected landfill gas or as the small fraction of organic compounds which are uncombusted at the landfill gas abatement device. All of these forms of emissions are attributed to the landfill source, S-1, and are a function of the permitted capacity of the landfill.

Under this application, Tricities has not proposed any modification to the landfill itself, therefore there is no associated increase in any of these emissions, which were reviewed and addressed at the time the landfill was permitted.

### **Cumulative Increase**

There is no change in emissions associated with the request to modify a temperature limit, therefore this application will not change the cumulative increase for this facility.

### **Compliance Determination**

#### **Regulation 1, "General Provisions and Definitions"**

#### **Public Notice Requirements, Regulation 2, Rule 1**

#### **Best Available Control Technology (BACT) Requirements, Regulation 2, Rule 2**

#### **Emission Offsets and Prevention of Significant Deterioration (PSD), Regulation 2, Rule 2**

#### **Health Risk Assessment Requirements, Regulation 2, Rule 5**

#### **Regulation 6, "Particulate Matter and Visible Emissions"**

#### **Regulation 9, Rule 2, "Inorganic Gaseous Pollutants – Hydrogen Sulfide"**

As there is no change in emissions associated with this request, continued compliance with the emission limits in Regulation 1 (public nuisance), Regulation 6 (particulate and visible emissions), and Rule 9-2 (hydrogen sulfide) is expected, and the public notification requirements of Regulation 2-1-412, BACT, PSD, emission offsets, and the health risk assessment requirements in Rule 2-5 do not apply.

**California Environmental Quality Act (CEQA) Requirements, Regulation 2, Rule 1**

The requested modification of the temperature limit for the specified wells will be a modification of the permit conditions for the permitted source, S-1, will not involve physical modifications, and is not expected to increase emissions. Therefore, this request is exempt from CEQA review by the express terms of CEQA and District Regulation 2-1-312.1.

**Major Facility Review, Regulation 2, Rule 6**

This facility is a designated facility, as it is currently subject to the requirements of 40 CFR Part 60. The requirements of this program have been codified in District Regulation 2, Rule 6. As a designated facility, this facility was required to obtain a Title V Federal Operating Permit.

The facility was issued the initial Title V permit on November 28, 2001 and underwent several amendments and revisions. The permit was recently renewed on November 2, 2007. The proposed establishment of an alternate well temperature limit is considered a minor revision to the Title V permit, which will be processed under Application #17061.

**Regulation 8, Rule 34, "Organic Compounds – Solid Waste Disposal Sites"**

Tricities has requested approval of higher well temperature limit of 145 degreesF for 2 wells at this site. Section 8-34-305 limits the landfill gas temperature at each wellhead to less than 131 degreesF. The well temperature limit is intended to minimize the potential for subterranean fires and to ensure anaerobic decomposition is not inhibited. Exceptions are allowed under Section 8-34-305 if the operator has satisfied the requirements of Section 8-34-414 (Repair Schedule for Wellhead Excesses) or has received permit conditions containing alternative operating levels.

It is not unusual to observe temperatures higher than 131 degreesF at wells that are operating properly. According to published data, the observed subsurface landfill gas temperature during normal thermophilic bacterial reaction can range between 113 and 149 degreesF. Temperatures as high as 158 degreesF have been measured with no corresponding subsurface combustion. Tricities has investigated the wells which are running at higher temperatures and concluded that the wells are operating properly, producing gas with methane levels of greater than 50% with corresponding low oxygen, carbon monoxide, and balance gas concentrations. Therefore, the requested higher well temperature will be added to the permit conditions for Wells 103 and 114 at the landfill. Tricities will continue to monitor the landfill gas composition to ensure that the anaerobic decomposition is within normal tolerances. No increase in emissions is expected due to this change.

**40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS):**

**Subpart A, Standards of Performance for New Stationary Sources – General Provisions**

**Subpart Cc, Standards of Performance for New Stationary Sources – Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills**

40 CFR Part 60, Subpart Cc, Emission Guidelines (EG) for Municipal Solid Waste (MSW) Landfills applies to MSW landfills that have had no design capacity modification since May 30, 1991, but that have accepted waste since November 8, 1987. The District's Regulation 8, Rule 34 has been approved in the state plan for implementation of the EG requirements. Therefore, the facility is currently subject to the EG, which is enforced through compliance with District Regulation 8, Rule 34.

**40 CFR Part 70, State Operating Permit Programs (Title V):**

This facility is a designated facility, as it is currently subject to the requirements of 40 CFR Part 70. As a designated facility, this facility is subject to the requirements of 40 CFR Part 70. The requirements of this program have been codified in District Regulation 2, Rule 6.

**Permit Condition #8366**

Part 20 will be added to the existing permit condition #8366 as indicated below to address the alternate temperature limits:

20. The gas collection system operating requirements listed below shall replace the well head requirements identified in Regulation 8-34-305.2 through 8-34-305.4 for the specified wells. All wells remain subject to the Regulation 8-34-305.1 requirement to maintain vacuum at each well head.
- a. The Regulation 8-34-305.2 temperature limit shall not apply to the Wells 103 and 114 provided that the landfill gas temperature at each well does not exceed 145 degrees F (63 degrees C).
  - b. The owner/operator shall demonstrate compliance with the alternative wellhead landfill gas temperature specified in Part 20(a) above by monitoring the temperature of each wellhead on a monthly basis, in accordance with Regulation 8-37-505.
  - c. All records to demonstrate compliance with Part 20(a) and all applicable sections of Regulation 8, Rule 34 shall be recorded in a District-approved log and made available to District staff upon request in accordance with Regulation 8-34-501.4, 501.9, and 414.
  - d. If the temperatures measured at any of the wells listed in Part 20(a) exceed 145 degreesF, the owner/operator shall take all measures necessary to investigate the possibility of subsurface fires, including landfill gas testing for carbon monoxide (CO) on the affected wells. If a fire is suspected, the owner/operator shall employ all means as appropriate to extinguish the fire, repair the well(s), and bring the well(s) back into service.
- (basis: Regulation 8-34-301.2, 8-34-303, and 8-34-305, 40 CFR Part 60.755(a) and 60.759)

**Recommendations**

I recommend issuing a Change of Conditions for Condition #8366 for the following source:  
**S-1, Landfill with Gas Collection System, 37 vertical gas extraction wells**

\_\_\_\_\_  
Tamiko Endow  
Air Quality Engineer

\_\_\_\_\_  
Date

## Engineering Evaluation Report

Tri-Cities Recycling, P#2246  
7010 Auto Mall Parkway, Fremont  
Application #17332

### Background

Tri-cities Recycling applied for an Authority to Construct for the following modifications to the Landfill, S-1:

**S-1, Municipal Solid Waste Landfill with Gas Collection System, equipped with (33) Vertical Gas Extraction Wells – Replacement of up to (12) Existing Vertical Gas Extraction Wells, Installation of up to (32) New Vertical Gas Extraction Wells, and Decommissioning of up to (17) Existing Vertical Gas Extraction Wells**

### Emission Calculations

The existing gas collection and control system currently collects and processes landfill gas at a rate of approximately 1,000 cubic feet per minute (scfm). The peak landfill gas recovery rate is expected to peak at 1,600 scfm. The collected landfill gas is abated at the existing Enclosed Landfill Gas Flare, A-3, which has a processing capacity of 2,500 scfm. As the capacity of the landfill gas flare is adequate to process all of the gas generated at the landfill, and the emissions from the flare have already been fully accounted for, there is no increase in emissions due to this application.

### Statement of Compliance

There are no new District or federal regulations triggered by this proposed landfill gas collection system modification. However, changing the number of landfill gas collection wells will require that the Title V permit for the facility be modified. This change qualifies as a minor revision to the Title V permit and will be processed with issuance of the District Permit to Operate, when the well modifications have been completed.

### Permit Condition Modifications

Part 2 of the permit condition #8366 will be modified as indicated below to address the gas collection system modifications proposed under this application:

2. The Permit Holder shall apply for and receive an Authority to Construct before modifying the landfill gas collection system described. Increasing or decreasing the number of wells or collectors, or significantly changing the length of the collectors or the locations of wells or collectors are modifications that are subject to the Authority to Construct requirement.

The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below. Well and collector locations, depths, and lengths are as described in detail in Permit Applications #3515, 10998, and 15345. In addition, the Permit Holder has been issued an Authority to Construct for modifications to the gas collection system, the details of which are included in Permit Application #17332.

#### Required Components

Total Number of Vertical Wells:  
(Basis: Regulations 2-1-301, 8-34-301.1, and 8-34-305)

33

**Recommendations**

I recommend issuing an Authority to Construct to the following source:

**S-1, Municipal Solid Waste Landfill with Gas Collection System, equipped with (33) Vertical Gas Extraction Wells – Replacement of up to (12) Existing Vertical Gas Extraction Wells, Installation of up to (32) New Vertical Gas Extraction Wells, and Decommissioning of up to (17) Existing Vertical Gas Extraction Wells**

\_\_\_\_\_  
Tamiko Endow  
Air Quality Engineer

\_\_\_\_\_  
Date

## Addendum to Engineering Evaluation Report

Tri-Cities Recycling, P#2246  
7010 Auto Mall Parkway, Fremont  
Application #17332

### Background

On March 20, 2008, Tri-Cities Recycling (“Applicant”) was issued an Authority to Construct for changes to gas collection system for the Landfill, S-1. At the time of application, the gas collection and control system was equipped with 33 vertical landfill gas extraction wells. Under this Application #17332, the Applicant was authorized to install up to 32 new vertical wells, decommission up to 17 existing vertical wells, and replace up to 12 existing vertical wells.

An Authority to Construct expires 2 years after issuance and therefore expired on March 20, 2010. The Applicant requested a renewal of the Authority to Construct, which was issued for an additional 2 years. The Applicant has now requested that this Authority to Construct be closed and the Permit to Operate issued for the current configuration of the landfill gas collection system, consisting of 31 active vertical wells. Permit condition #8366 has been modified as indicated below to reflect the final construction count under this application.

### Permit Condition #8366

Part 2 of Condition #8366 will be amended as indicated below:

- ~~The Permit Holder shall apply for and receive an Authority to Construct before modifying the landfill gas collection system described. Increasing or decreasing the number of wells or collectors, or significantly changing the length of the collectors or the locations of wells or collectors are modifications that are subject to the Authority to Construct requirement.~~

The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below. Well and collector locations, depths, and lengths are as described in detail in Permit Applications #3515, 10998, ~~and 15345, and 17332.~~ ~~In addition, the Permit Holder has been issued an Authority to Construct for modifications to the gas collection system, the details of which are included in Permit Application #17332.~~

#### Required Components

Total Number of Vertical Wells:  
(Basis: Regulations 2-1-301, 8-34-301.1, and 8-34-305)

3331

### Recommendations

I recommend issuing a Permit to Operate with the modified conditions to the following source:

**S-1, Landfill with Gas Collection System, equipped with (31) Vertical Gas  
Extraction Wells**

\_\_\_\_\_  
Tamiko Endow  
Air Quality Engineer

\_\_\_\_\_  
Date

## **Engineering Evaluation Report**

Tri-Cities Recycling, P#2246  
7010 Auto Mall Parkway, Fremont  
Application #22571

### **Background**

Tri-Cities Recycling (“Applicant”) has requested a Change of Conditions to allow installation, decommissioning, and maintenance of vertical landfill gas collection wells, horizontal landfill gas trench collectors, and leachate cleanout risers at the Landfill, S-1, under the accelerated permitting program. The Applicant has also requested approval of Less Than Continuous Operation (LTCO) and approval of alternate operating standards for the leachate cleanout risers (LCR).

The LCRs are horizontal collectors, which are intended to collect and remove liquid (“leachate”) that accumulates in the landfill. Both horizontal landfill gas trench collectors and LCRs are composed of a perforated pipe, surrounded by gravel. However, the LCRs are installed as a network of piping at the bottom of the landfill to collect liquid that accumulates in the landfill by gravity. This liquid is eventually drained to a sump. Horizontal landfill gas trench collectors are intended to collect landfill gas; they are typically installed on top of waste placed in the landfill and are eventually covered with more waste.

The Applicant has requested a Change of Conditions to allow the following alterations to the gas collection system and leachate collection system for the Landfill, S-1:

#### **S-1, Landfill with Gas Collection System, equipped with (31) Landfill Gas Vertical Extraction Wells:**

- **Installation of up to (30) New Vertical Gas Extraction Wells**  
**Replacement of an unlimited number of Vertical Gas Extraction Wells**  
**Decommissioning of up to (15) Existing Vertical Gas Extraction Wells**
- **Installation of up to (15) new Horizontal Trench Collectors**  
**Replacement of an unlimited number of Horizontal Trench Collectors**  
**Decommissioning of up to (15) Horizontal Trench Collectors**
- **Installation/Start-up of up to (5) new Leachate Cleanout Risers**  
**Decommissioning of up to (5) Leachate Cleanout Risers**

The last Authority to Construct issued for changes to the landfill gas collection system was issued under Application #17332 on 3/2008 and subsequently extended for an additional 2 years. The Applicant has requested the Authority to Construct under Application #17332 be closed out. The District now reviews landfill gas collection system alterations as a Change of Conditions, with no expiration date.

### **Emission Calculations**

Landfills are sources of air emissions, including particulate matter from the handling of waste, excavation and compaction activities, as well as vehicular traffic across paved and unpaved roads. Landfill gas control equipment, as well as delivery vehicles and onsite mobile construction equipment, also generate combustion emissions from the combustion of fuel. The decomposition of waste in the landfill generates emissions of methane and volatile organic compounds, which is emitted in the form of fugitive leaks from uncollected landfill gas or as the small fraction of organic compounds which are uncombusted at the landfill gas abatement device. All of these types of emissions are related to the permitted capacity of the landfill, S-1.

Under this application, the Applicant has not proposed any modification to the permitted capacity of the landfill itself, therefore there is no associated increase in any of these emissions, which were reviewed and addressed at the time the landfill was permitted.

The landfill gas recovery rate for this site is expected to peak at 1,600 scfm. The collected landfill gas is abated at the existing Enclosed Landfill Gas Flare, A-3, which has a processing capacity of 2,500 scfm. As the capacity of the landfill gas flare is adequate to process all of the gas generated at the landfill, and the emissions from the flare were fully accounted for when the flare was permitted, there is no increase in emissions due to this application.

### **Cumulative Increase**

There is no change in emissions associated with the request to alter the landfill gas and leachate collection systems or the proposed alternate operating conditions, therefore there will be no change to the cumulative emission increases for this facility as a result of this application.

### **Compliance Determination**

#### **Regulation 1, “General Provisions and Definitions”**

#### **Regulation 2, Rule 1, “Permits – General Requirements” - Public Notice Requirements**

#### **Regulation 2, Rule 2, “Permits – New Source Review” - Best Available Control Technology (BACT) Requirements, Emission Offsets and Prevention of Significant Deterioration (PSD)**

#### **Regulation 2, Rule 5, “Permits – New Source Review of Toxic Air Contaminants” - Health Risk Assessment Requirements**

#### **Regulation 6, Rule 1, “Particulate Matter – General Requirements”**

#### **Regulation 9, Rule 2, “Inorganic Gaseous Pollutants – Hydrogen Sulfide”**

As there is no change in emissions associated with the proposed alterations to the landfill gas and leachate collection systems or alternate operating conditions, continued compliance with the emission limits in Regulation 1 (public nuisance), Regulation 6, Rule 1 (particulate and visible emissions), and Regulation 9, Rule 2 (hydrogen sulfide) is expected. In addition, the public notification requirements of Regulation 2, Rule 1, Section 412, the BACT, PSD, and emission offset requirements in Regulation 2, Rule 2, as well as the health risk assessment requirements in Regulation 2, Rule 5 are requirements that are triggered based on emission increases and therefore also do not apply.

#### **California Environmental Quality Act (CEQA) Requirements, Regulation 2, Rule 1**

The proposed alterations to the collection system and alternate operating limitations will require a change to the permit conditions for the permitted source, S-1, but will not involve an increase emissions. Therefore, this request is exempt from CEQA review by the express terms of CEQA and District Regulation 2-1-312.1.

#### **Major Facility Review, Regulation 2, Rule 6**

#### **40 CFR Part 70, State Operating Permit Programs (Title V)**

The Title V federal permitting requirements of 40 CFR Part 70 have been codified and are enforced through District Regulation 2, Rule 6. This facility is a designated facility and is therefore subject to Title V and Regulation 2, Rule 6. As a designated facility, this facility was required to obtain a Title V Federal Operating Permit. The facility was issued the initial Title V permit on November 28, 2001 and the permit was renewed on November 2, 2007. The proposed collection system alterations are considered a minor revision to the Title V permit, which will be processed under Application #17061.

**Regulation 8, Rule 34, "Organic Compounds – Solid Waste Disposal Sites"**

40 CFR Part 60, Subpart Cc, Standards of Performance for New Stationary Sources (NSPS)– Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

40 CFR Part 60, Subpart Cc, Emission Guidelines (EG) for Municipal Solid Waste (MSW) Landfills applies to MSW landfills that have not undergone a design capacity modification since May 30, 1991, but that have accepted waste since November 8, 1987. The District's Regulation 8, Rule 34 has been approved in the state plan for implementation of the EG requirements. This facility is currently subject to the EG, which is enforced through compliance with District Regulation 8, Rule 34.

Regulation 8, Rule 34 contains operational requirements that apply to the landfill gas collection system as well as requirements that apply to the landfill operation and the landfill gas emission control system. As only the gas collection system and leachate collection system will be affected by the Applicant's proposal, only the collection system requirements are discussed below.

Section 8-34-301.1 requires the landfill gas collection system to be operated continuously, unless the requirements of Section 8-34-404 are met. Also, Section 8-34-305 requires landfill gas collection wells to be operated in compliance with the following limits, unless alternate operating limits have been approved:

- Operate under vacuum (negative pressure);
- Gas temperature < 55 degC (131 degF); and
- Nitrogen concentration less than 20% by volume, or oxygen concentration less than 5% by volume.

Although the leachate collection system is intended to capture and remove liquids, due to the construction, landfill gas does migrate into the leachate collection system. The leachate collection system does meet the definition of "gas collection system" in Section 8-34-210 and is therefore subject to the operating limits above. The Applicant has proposed to operate the leachate collection system less than continuously and has also requested alternate operating limits for the LCRs.

Although the leachate collection system is intended to capture and remove liquids, due to the construction, landfill gas does migrate into the leachate collection system. The accumulation of landfill gas in this system can eventually build up enough pressure to cause the gas to migrate out of the system where the cover is minimal near the edge of the landfill liner, resulting in emissions of landfill gas and potential odor problems. To prevent this, the Applicant connects the LCRs to the landfill gas collection system to remove accumulated landfill gas.

However, the Applicant has indicated that applying even minimal vacuum to the LCRs can result in excess air infiltration due to the design of the leachate collection system, making it difficult for the LCRs to comply with both both the negative pressure and oxygen content limitations specified above for landfill gas collection wells. Therefore, the Applicant has also requested approval of following oxygen content and pressure limits for the LCRs:

- Oxygen concentration not to exceed 15% by volume.
- Operate at a maximum pressure of up to 0.5 inches water column; and

In the event that the oxygen concentration measured at a LCR approaches 15% by volume, the Applicant has proposed to close the LCR until the presence of landfill gas must again be addressed. As required by Section 8-34-404 which specifies the required elements of a "Less Than Continuous Operation Petition," the Applicant has submitted monthly monitoring data for the LCRs showing that landfill gas is present in the leachate collection system, a map identifying the locations of the LCRs, and has proposed to inspect the LCRs on the standard monthly schedule specified by Regulation 8-34. As the neighboring landfill gas collection wells are expected to collect the gas in the vicinity of the LCRs when they are periodically closed, and since the landfill leak and well monitoring requirements will continue to be met, closure of the LCRs is not expected to cause excess emissions. Therefore, since the requirements of Section

8-34-404 have been met, approval of these alternate operating limits and less than continuous operation of the LCRs is recommended.

In addition, the following requirements apply to the gas collection and leachate collection systems:

- Section 8-34-301.2 limits component leaks to no more than 1000 ppmv, as methane, unless the leak has been discovered by the operator, recorded pursuant to Section 8-34-501, and repaired within 7 days. Quarterly leak testing is required by Section 8-34-503.
- Section 8-34-304 specifies when gas collection wells must be installed within the landfill.
- Section 8-34-501 requires maintenance of all monitoring and testing dates, the results, as well as collection system downtime, and all repairs to the gas collection system.
- Section 8-34-505 requires monthly monitoring of wells for compliance with operational limits.

The Applicant is expected to continue to comply with these requirements.

**Permit Condition #8366**

Part 2 of Condition #8366 will be amended as indicated below to address the proposed landfill gas collection system and leachate collection system alterations:

2. The owner/operator Permit Holder shall apply for and receive an Authority to Construct Change of Conditions from the District before modifying-altering the landfill gas collection system described in Parts 2a-b below. Increasing or decreasing the number of wells or collectors, or significantly changing the length of the collectors, or the locations of wells or collectors are modifications alterations that are subject to the Authority to Construct this requirement. The authorized number of landfill gas collection system and leachate collection system components is the baseline count listed below, plus any components added and minus any components decommissioned pursuant to Part 2b, as evidenced by start-up/shutdown notification letters submitted to the District.

a. The owner/operator Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below. Well and collector locations, depths, and lengths are as described in detail in Permit Applications #3515, 10998, ~~and~~ 15345, and 17332. In addition, the Permit Holder has been issued an Authority to Construct Change of Conditions for modifications to the gas collection system, the details of which are included in Permit Application #~~17332~~22571.

Required Components

Total Number of Vertical Wells:	31
<u>Total Number of Horizontal Landfill Gas Trench Collectors</u>	<u>0</u>
<u>Total Number of Leachate Collection Wells:</u>	<u>4</u>

a. The owner/operator is authorized to make the landfill gas collection system and leachate collection system component alterations listed below. Specific details regarding well alterations are described in Permit Application #22571.

	<u>Minimum</u>	<u>Maximum</u>
<u>Install new Vertical Gas Extraction Wells:</u>	<u>0</u>	<u>30</u>
<u>Decommission Vertical Gas Extraction Wells:</u>	<u>0</u>	<u>15</u>
<u>Install new Horizontal Trench Collectors</u>	<u>0</u>	<u>15</u>
<u>Decommission Horizontal Trench Collectors</u>	<u>0</u>	<u>15</u>
<u>Install new Leachate Cleanout Risers</u>	<u>0</u>	<u>5</u>
<u>Decommission Leachate Cleanout Risers</u>	<u>0</u>	<u>5</u>

Wells installed, relocated, replaced, or shutdown pursuant to Part 2b shall be added to or removed from Part 2a in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415. The owner/operator shall maintain records of the decommissioning date for each well that is shutdown and the initial operation date for each new or relocated well. An unlimited number of vertical gas extraction well and horizontal trench collector replacements may be

performed as long as the replacement is connected to the gas collection system within 24 hours of shutdown of the replaced well/trench collector.

(Basis: Regulations 2-1-301, 8-34-301.1, 8-34-303, 8-34-304, and 8-34-305)

Part 21 will be added to Condition #8366 as indicated below to allow alternate operating limits and less than continuous operation of the leachate cleanout risers:

21. The leachate collection system operating requirements listed below shall replace the operating requirements identified in Regulation 8-34-301.1, 8-34-305.1, 8-34-305.3, and 8-34-305.4 for the leachate collection risers (LCRs) which the District has approved for inclusion in Part 21. All LCRs remain subject to the landfill gas temperature limit in Regulation 8-34-305.2. (basis: Regulation 8-34-305, Regulation 8-34-404, Regulation 8-34-414, Regulation 8-34-501.4, Regulation 8-34-501.9, 40 CFR Part 60.755(a) and 60.759, Regulation 2-6-501)

- a. The Regulation 8-34-305.3 and 8-34-305.4, the nitrogen and oxygen content limits, shall not apply, provided that each LCR is operated at a oxygen concentration not to exceed 15% by volume.
- b. If compliance with Part 21(a) requires turning off the vacuum to a LCR, the Regulation 8-34-301.1 continuous operation and 8-34-305.1 negative pressure requirement shall not apply if the owner/operator ensures the pressure at the affected LCR does not exceed 0.5 inches water column. This allowance for less than continuous operation will expire on January 30, 2014, unless the owner/operator requests renewal of this provision pursuant to Regulation 8-34-404 and the District approves the request.
- c. The owner/operator shall demonstrate compliance with the oxygen content limit in 21(a) alternative wellhead pressure limit in 19(b) by installing and maintaining a District-approved vacuum/pressure gauge at each LCR and by monitoring and recording the oxygen content and pressure at each affected LCR on a monthly basis, in accordance with Regulation 8-34-501 and 8-34-505.
- d. The owner/operator may elect to add additional LCRs to these alternate operating conditions by notifying the District in writing of this request, with identification of the LCR ID number(s) and submittal of the information required by Regulation 8-34-404.
- e. All records to demonstrate compliance with Part 21 and all applicable sections of BAAQMD Regulation 8, Rule 34 shall be recorded in a District-approved log and made available to District staff upon request for at least 5 years from date of entry.

## Recommendations

I recommend issuing a Change of Conditions to Condition #8366 for the following source:

### S-1, Landfill with Gas Collection System, equipped with (31) Landfill Gas Vertical Extraction Wells:

- **Installation of up to (30) New Vertical Gas Extraction Wells**  
**Decommissioning of up to (15) Existing Vertical Gas Extraction Wells**
- **Installation of up to (15) new Horizontal Trench Collectors**  
**Decommissioning of up to (15) Horizontal Trench Collectors**
- **Installation/Start-up of up to (5) new Leachate Cleanout Risers**  
**Decommissioning of up to (5) Leachate Cleanout Risers**

\_\_\_\_\_  
Tamiko Endow  
Air Quality Engineer

\_\_\_\_\_  
Date

## **Engineering Evaluation Report**

Tri-Cities Recycling, P#2246  
7010 Auto Mall Parkway, Fremont  
Application #24095

### **Background**

Waste Management (“Applicant”) has applied for a Permit to Operate a Concrete and Asphalt Stockpile Area at the Tri-Cities Recycling Facility, located at the 7010 Auto Mall Parkway, in Fremont.

The Applicant has indicated that a concrete and asphalt crushing/recycling operation has existed at this site for many years, owned and operating by Raisch Products, who leased a portion of the site from Waste Management for this operation. The Raisch operation was not affiliated with Waste Management or the Tri-Cities Landfill/Recycling Facility operation, and Raisch did not process any waste accepted by the landfill. This lease with Raisch was terminated in 2010.

The Applicant has applied to continue this operation, which involves accepting clean concrete and asphalt from demolition, storing, crushing, then selling the material for recycling into aggregate products for use on highway, roadway, parking lot, and other construction projects. Trucks bringing in concrete and asphalt will be weighed at the site scalehouse, then proceed to the project location and unload the material into stockpiles. The stockpiles will be sprayed with water during unloading and periodically to abate fugitive dust.

The Applicant is proposing to process the stockpiled material in place using a state-registered portable crushing plant, consisting of crushing equipment, conveyor belts, and support trailers, powered by a diesel engine and abated with continuous water spray equipment. The portable crushing plant will be owned and operated by an independent contractor, not affiliated with the Applicant, and will be brought onsite as needed. The location of the portable crushing plant will vary, depending on the location of the stockpiles. The processed materials will be deposited back into stockpiles. Front end loaders will be used to load the processed materials into customer trucks, which will also be sprayed with water to abate dust.

The Applicant has proposed a maximum acceptance and removal limit of 2,500 tons per day and a maximum annual throughput limit of 150,000 tons per year. The vehicular trips associated with this operation are expected to be no more than 32 daily round trips. Since the current fill rate of the landfill has been declining and is expected to cease within the next year or two when the site reaches capacity, the vehicular trips associated with the project are not expected to increase the number of daily trips above historical levels. The permit for this facility does not currently restrict the number of vehicular trips to the site.

### **S-24, Concrete & Asphalt Stockpile Storage Area, 150,000 ton per year maximum, 2,500 ton per day maximum**

Note that the District is currently working with several other air Districts in California to define a permitting policy to clarify under what circumstances portable equipment registered under the state’s portable equipment registration program (PERP) becomes subject to District stationary source permit requirements. As this policy is not yet final, this application will evaluate only the stockpiles associated with the proposed recycling operation. The Applicant has been informed that, pending issuance of the District policy on state registered portable equipment, a District permit may be required for the PERP-certified portable concrete crushing plant operated at this site.

### Emission Calculations

Particulate emissions will be generated from the unloading, storage, crushing, then reloading of concrete and asphalt.

The PM10 emissions for this project have been based on emission factors from EPA's AP-42, Compilation of Air Pollution Emission Factors, 5<sup>th</sup> Edition, Chapter 13.2.4, Aggregate Handling and Storage Piles. The calculations include the initial unloading of the recycled material at the site and the final loading of the crushed product into a customer's vehicle.

Note that since the District policy regarding permitting of PERP-registered equipment operated at facilities within the District is currently under development, the emissions from the portable crushing operation, including the emissions from loading material from stockpiles onto the portable crushing plant, conveying, crushing, screening, then unloading from the crushing plant back into stockpiles will not be considered under this application. If a District permit is required of the PERP equipment, the emissions from the crushing and handling operation, as well as the diesel engine used to power this equipment, will be assessed at that time under a separate application.

The emissions from the loading and unloading into the stockpiles have been calculated based on the Applicant's proposed annual limit of 150,000 tons and a maximum daily acceptance and loadout throughput of 2,500 tons. Emissions from wind erosion are also expected to be insignificant. No additional emissions from vehicular traffic will be assessed, since the landfill at this site is closing and the closure is expected to more than offset the volume of vehicle trips for the proposed recycling operation. The particulate emission calculations are shown in the attached spreadsheet and summarized in Table 1 below.

**Table 1**  
**Criteria Pollutant Project Emissions**

	<b>Emission Factor (lbs/ton)</b>	<b>Annual Emissions (lbs/yr)</b>	<b>Maximum Daily Emissions (lbs/day)</b>
<b>Project Total PM10</b>	0.001911	573.3	9.55
<b>Project Total PM2.5</b>	0.000289	86.8	1.45

### Cumulative Increase

The District tracks increases in emissions from each facility. These cumulative emissions were reset on April 5, 1991 for all facilities. The post-project cumulative increase for this facility consists of the emissions listed under the current Plant #2246, shown below, as well as the increase in particulate emissions from this project.

**Table 2**  
**P#2246, Cumulative Emission Increases Since 4/5/91**

<b>Pollutant</b>	<b>Existing, tpy</b>	<b>Increase, tpy</b>	<b>New, tpy</b>
PM10	6.000	0.287	6.287
PM2.5	---	0.043	0.043

### Compliance Determination

#### Regulation 1, "General Provisions and Definitions"

The facility is subject to Regulation 1, Section 301, which prohibits discharge of air contaminants resulting in public nuisance. The project, as proposed, includes use of water spray to minimize fugitive

dust emissions. With this abatement, the operation is not expected to be the source of dust complaints, as the expected emissions from the operation are small.

**Public Notice Requirements, Regulation 2, Rule 1**

The public notification requirements of Regulation 2-1-412 apply to modifications which result in an increase in toxic air contaminant or hazardous air contaminant emission at facilities within 1,000 feet of the boundary of a K-12 school. The applicant has reported no K-12 school within that radius of this facility, and the District’s database confirms that there is no K-12 school within a 1 mile from the facility. Therefore, the public notice requirements do not apply.

**California Environmental Quality Act (CEQA) Requirements, Regulation 2, Rule 1**

District Regulation 2, Rule 1, Section 310 specifies that all proposed new and modified sources subject to District permit requirements must be reviewed in accordance with CEQA requirements except for ministerial projects or projects exempt from CEQA under Section 2-1-312. This project is considered to be ministerial and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors in accordance with Permit Handbook Chapter 11.7, Crushing and Grinding. Chapter 11.7 addresses emissions and permit conditions for bulk unloading and loading and storage piles and fits this proposed project.

**Best Available Control Technology (BACT) Requirements, Regulation 2, Rule 2**

Per Regulation 2, Rule 2, BACT is triggered when the maximum emissions from a source are 10 lbs per day or more. The maximum daily PM10 and PM2.5 emissions from this operation will be less than 10 lbs per day, therefore BACT review is not triggered.

**Emission Offsets and Prevention of Significant Deterioration (PSD), Regulation 2, Rule 2**

The PM10 emission offset requirements are specified in District Regulation 2, Rule 2, Section 303. PM10 emission offsets must be provided for new or modified sources located at a major facility that will result in a cumulative increase in excess of 1.0 ton per year since April 5, 1991.

The existing sources at this site include the landfill, woodwaste stockpiles, and the landfill gas flare, and all of these sources also emit PM10. The actual PM10 emissions from these sources, based on 2011 data reported by the Applicant, are 6.5 tons per year. The potential PM10 emissions from the facility are summarized in Table 3, below.

**Table 3  
 P#2246, PM10 Potential to Emit**

Source/AD	Limit	EF Basis	PTE, tpy
S-5, Woodwaste Stockpiles	200 tpd	specific	0.1
S-24, Concrete/Asphalt Stockpile Storage	150,000 tpy	AP-42	0.3
S-103, Landfill Waste/Cover Dumping	2628 tpd	specific	54.2
S-103, Landfill Excvtng/Bulldz/Compctng	2628 tpd	specific	27.2
A-3, Flare	75 MMBtu/hr	AP-42	5.6
Facility Total			87.4

Since the potential PM10 emissions are less than 100 tons per year, this facility is not major for PM10, and PM10 emission offsets are not required.

The PSD requirements in District Regulation 2, Rule 2, Section 304 apply to major modifications at a major facility if the cumulative increase from the PSD baseline Date, minus the contemporaneous emission reduction credits, exceed 15 tons per year of PM10. This project does not constitute a major modification and the facility is not major for PM10, therefore the PSD requirements do not apply.

### **Health Risk Assessment Requirements, Regulation 2, Rule 5**

The District's regulation concerning toxic air contaminant emissions is codified in Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants (TAC). All TAC emissions from new and modified sources are subject to risk assessment review, if the resulting emissions of any individual TAC exceed either the acute or chronic emission thresholds defined in Table 2-5-1.

The TAC emissions from the proposed stockpile operation will depend on the composition of the concrete and asphalt material accepted. Assessment of the TAC emissions from this operation is not straightforward, as there is no single composition for these products. The properties and composition will vary, depending on the original use of the material, when and where the material was produced, and the manufacturer.

Concrete is a mixture of sand, aggregate, cement, and water. Cement is made from a combination of mined minerals and therefore will contain trace element of the metals found in the original minerals, as well as contaminants resulting from the manufacturing process. The primary TAC component of concrete is crystalline silica, but it is also known to contain arsenic, beryllium, cadmium, chromium, lead, manganese, mercury, nickel, and selenium.

Asphalt is a residue from petroleum refining and is a mixture of many compounds. It generally consists of aromatic hydrocarbons, containing sulfur and nitrogen. Asphalt (5-10%) is mixed with aggregate and/or sand (90-95% by weight) to produce asphalt paving materials. The volatile toxic hydrocarbons are emitted during the initial pour and curing of asphalt. TAC emissions due to storage of this cured and recycled material in stockpiles is expected to consist of crystalline silica and trace metals from the aggregate and sand components of this mixture.

Since the amount and composition of the recycled materials will vary, there is no way to definitively quantify TAC emissions from this type of operation. Therefore, certain conservative assumptions have been made to estimate the TAC emissions from the proposed stockpile operation, as detailed below:

- The metal TAC emissions were calculated based on the worst case assumption that only concrete is handled, since the metal TAC content in concrete is higher than in asphalt.
- The metal TAC emissions were characterized by the emission factor speciation in EPA's AP-42, Compilation of Air Pollutant Emission Factors, Chapter 11.12, Concrete Batch Plant Metal Emission Factors, Table 11.12-8 for metal TAC's, except mercury.
- The cement & cement supplement fraction in concrete was assumed to be 14%, by weight, as specified in the Table Table 11.12-8 footnotes.
- The fraction of hexavalent chromium to total chromium was assessed at 20% by weight. This worst case estimate was based on AB2588 source test data from a local cement manufacturing facility, which showed a range from 1-14%, by weight.
- Mercury content was derived from the AB2588 source test data on a cement baghouse at a local cement manufacturing facility.
- Emissions of crystalline silica were based on a worst case assumption that only asphalt is recycled material, since asphalt contains more aggregate than concrete, that the asphalt contains 95% aggregate by weight, and the aggregate consists of 95% crystalline silica by weight.

The PM10 and PM2.5 emission factors for truck loading and unloading into stockpiles from EPA's AP-42, Compilation of Air Pollutant Emission Factors, Chapter 13.2.4, Fugitive Dust Sources – Aggregate Handling and Storage Piles, were used to calculate total PM10 and PM2.5 emissions. To determine what percentage of these overall particulate emissions may be TAC emissions, the speciation of metal TAC emissions from EPA's AP-42, Chapter 11.12, Mineral Products Industry – Concrete Batching, Table 11.12-8 was compared to the overall PM10 emission factor for truck loading from Table 11-12-2 from this same chapter. The resulting ratio

of metal TAC to overall PM10 was applied to the PM10 stockpile emissions to estimate metal TAC emissions from the transfer of material into and out of stockpiles.

Since the speciation of metal TACs from AP-42 Table 11.12-8 does not contain data on mercury and contains data for total chromium, but not hexavalent chromium, source data from a local cement manufacturing facility was used to estimate mercury and hexavalent chromium emissions.

For hexavalent chromium emissions, a conservative estimate of 20% hexavalent chromium in the total chromium fraction from AP-42 was used to adjust the total chromium emissions to hexavalent chromium. This value was selected as a worst-case estimate based the range of values measured through actual sampling and lab analysis of cement from a local cement manufacturing facility. The sampling/test data on mercury content in cement from the local cement manufacturing facility was applied to the maximum throughput proposed for this operation to estimate mercury emissions.

The crystalline silica emission factor was derived from the PM10 factor using the process described in the 2007 source test report by the CA Construction and Industrial Materials Association, "PM4 CS & PM10 PM Emission Factors for Aggregate Producing Sources, 2005 & 2006 Test Programs." This derived crystalline silica PM4 emission factor was applied to the proposed maximum annual throughput limit to calculate annual emissions.

Average hourly rates were calculated from the maximum daily throughput limit accepted by the Applicant and an 8 hour operating day. The resulting TAC emission estimates and risk screening trigger levels have been summarized in Table 4, below:

**Table 4  
 Estimated Worst-case Project TAC Emissions**

TAC	Emissions		Risk Screening Trigger Levels	
	lbs/yr	Average, lbs/hr	lbs/yr	lbs/hr
Arsenic	3.16E-3	3.69E-6	7.20E-3	4.40E-4
Beryllium	6.32E-5		4.70E-2	
Cadmium	8.85E-6		2.60E-2	
Chromium	5.90E-4		7.70E-4	
Lead	9.37E-4		3.20E+0	
Manganese	1.58E-2		3.50E+0	
Mercury	8.04E-7	9.37E-10	2.70E-1	1.3E-3
Nickel	3.08E-3	3.60E-6	4.30E-1	1.30E-2
Selenium	6.78E-4		7.70E+2	
Silica, crystalline CS4	1.06E+2		1.20E+2	

Since the estimated worst-case TAC emissions are less than the chronic risk screening trigger levels and since the daily average hourly emissions are several orders of magnitude less than the acute trigger levels, a health risk analysis is not required by Regulation 2, Rule 5.

Note that the Applicant has expressed disagreement over the District's assessment of TAC emissions from the proposed project. They have stated that although there are TAC components in cement, and that although cement is a component of concrete, that there is no proof that handling of concrete liberates any TAC emissions. As part of this argument, the Applicant has cited permitting manuals from other environmental agencies that do not define TAC emissions for the permitting of concrete and asphalt recycling operations.

It is standard methodology for the District to start with very conservative assumptions to estimate worst-case TAC emissions from a proposed operation for comparison to the risk screening trigger levels in Regulation 2, Rule 5. Since cement and aggregate are components of concrete and since these components contain TACs, it is reasonable to assume that emissions from concrete handling may result in emissions of TACs, regardless of whether other agencies assess TAC emissions from this type of operation.

Since the worst-case TAC emission estimates are less than the defined trigger levels in Table 2-5-1, no risk screen or further action is required. If the estimated emissions exceeded a risk screening trigger level and if risk was shown to be an issue prohibiting or limiting permitting of the proposed operation, refinement of the emission estimates would be considered, based on review of additional sampling and test data from other sources or actual source test data from the facility. However, since assessment of risk from this project is not required by Regulation 2, Rule 5, refinement of the emission estimates is not necessary at this time.

**Major Facility Review, Regulation 2, Rule 6  
40 CFR Part 70, State Operating Permit Programs (Title V)**

This facility is a designated facility, as it is currently subject to the requirements of 40 CFR Part 60. The requirements of this program have been codified in District Regulation 2, Rule 6. As a designated facility, this facility was required to obtain a Title V Federal Operating Permit.

The facility was issued the initial Title V permit on November 28, 2001 and underwent several amendments and revisions. The permit was renewed on November 2, 2007. The addition of the proposed stockpile operation to the Title V permit is considered a minor revision, which will be processed under Application #24096 or with the renewal of the Title V permit under Application #24421.

**Regulation 6, Rule 1, “Particulate Matter – General Requirements”**

The concrete and asphalt stockpiles are subject to the particulate emission and opacity standards in Regulation 6, Rule 1. Section 6-1-301 limits visible emissions, which may not be as dark or darker than No. 1 on the Ringelmann Chart, for more than 3 minutes in any hour. Section 6-1-305 prohibits emissions of visible particles from causing a public nuisance. As the emissions from the proposed handling and storage of concrete and asphalt will be abated by water spray, compliance with the opacity and public nuisance prohibition is expected.

Section 6-1-311 limits particulate emissions based on processing rates. Since the processing (crushing) will be performed by a PERP-certified portable crushing plant, which is not being permitted under this application, this section does not apply.

**40 CFR Part 60, Subpart F, Standards of Performance for Portland Cement Plants**

This regulation applies to facilities that manufacture portland cement, therefore does not apply to the proposed stockpiles associated with a concrete and asphalt recycling operation.

**40 CFR Part 60, Subpart I, Standards of Performance for Hot Mix Asphalt Plants**

This regulation applies to facilities that manufacture hot mix asphalt by heating and drying aggregate and mixing it with asphalt cements, and therefore does not apply to the proposed stockpiles associated with a concrete and asphalt recycling operation.

**40 CFR Part 60, Subpart UU, Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture**

This regulation applies to certain operations at asphalt roofing plants, asphalt processing plants, and petroleum refineries. Asphalt processing entails blowing asphalt, and asphalt roofing plants manufacture of asphalt products. The proposed operation does not include blowing asphalt or manufacture of asphalt products, therefore this regulation does not apply.

**40 CFR Part 60, Subpart OOO, Standards of Performance for Non-metallic Mineral Processing Plants**

This regulation applies to operations at non-metallic mineral processing plants and hot mix asphalt facilities. The listed non-metallic minerals include stone, sand, and gravel, but stockpiles are not subject to this regulation.

**40 CFR Part 63, Subpart LLL – National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry**

This regulation applies to equipment, storage bins, conveying system transfer points, loading and unloading systems, and open clinker piles at portland cement plants. Since the proposed recycling operation will not be manufacturing portland cement, this regulation does not apply.

**40 CFR Part 63, Subpart LLLL – National Emission Standards for Hazardous Air Pollutants: Asphalt Processing and Asphalt Roofing Manufacturing**

**40 CFR Part 63, Subpart AAAAAA – Area Sources - Asphalt Processing and Asphalt Roofing Manufacturing**

These regulations apply to asphalt processing facilities and asphalt roofing manufacturing facilities. Since the proposed recycling operation will not be manufacturing asphalt flux or asphalt roofing products, this regulation does not apply.

**Permit Condition #25393**

The following conditions will restrict the Concrete & Asphalt Stockpile Storage Area to the operational and handling parameters represented in the application, which were used to estimate emissions from the proposed operation:

1. The owner/operator shall ensure that no more than 150,000 tons concrete and asphalt is accepted at S-24 in any consecutive 12-month period.  
(basis: Cumulative Increase)
2. The owner/operator shall ensure that the combined amount of concrete and asphalt accepted at the site and removed from the site does not exceed 2,500 tons in any day.  
(basis: Regulation 2-1-403, limiting daily emissions to avoid BACT)
3. The owner/operator shall use water spray to abate fugitive dust whenever concrete or asphalt is being dumped into and removed from the stockpile storage area, shall minimize disturbance of the stockpiles, and use water spray additionally, as necessary, on the stockpiles and stockpile area to maintain compliance with District Regulation 6, Rule 1, Section 301.  
(basis: Regulation 2, Rule 1, Section 403)
4. The owner/operator shall maintain the following records:
  - a. Amount of concrete and asphalt accepted on a daily basis.
  - b. Amount of concrete and asphalt removed from the site on a daily basis.

- c. Amount of concrete and asphalt accepted and removed shall be totaled at the end of each month for each day and for the previous 12-month period.

The owner/operator shall record all records in a District-approved log. The owner/operator shall retain the records for five years from the date of entry and make them available for inspection by District staff upon request. These record-keeping requirements shall not replace the record-keeping requirements contained in any applicable District Regulations.

(basis: Cumulative Increase)

**Recommendations**

I recommend waiving an Authority to Construct and issuing a Permit to Operate for the following operation:

**S-24, Concrete & Asphalt Stockpile Storage Area, 150,000 ton per year maximum, 2,500 ton per day maximum**

\_\_\_\_\_  
Tamiko Endow  
Air Quality Engineer

\_\_\_\_\_  
Date