

Bay Area Air Quality Management District

939 Ellis Street
San Francisco, CA 94109
(415) 771-6000

Permit Evaluation and Statement of Basis For Renewal of

MAJOR FACILITY REVIEW PERMIT

for

**BFI – The Recyclery and International Disposal Corporation of CA
(Newby Island Landfill)**

Facility # A5472 and Facility # A9013

Facility Address:

1601 Dixon Landing Road
Milpitas, CA 95035

Mailing Address:

Same As Above

October 2012

Title V Renewal Application Number 18703

Application Engineer: Judith Cutino
Site Engineer: Tamiko Endow

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Title V Statement of Basis

A. Background

This facility 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. As discussed in more detail below in Section C.IV of this report, this facility is subject to the Part 70 permitting requirements pursuant to Regulation 2-6-304, because it meets the designated facility criteria listed in 40 CFR § 60.752(b).

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6, Major Facility Review (MFR). 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 identifier that consists of a letter and a 4-digit number. This permit includes two facilities: BFI - The Recyclery and International Disposal Corporation of CA, which are both owned by Browning - Ferris Industries of California, Inc. (BFI), a subsidiary of Allied Waste Industries, Inc. The identifier for BFI - The Recyclery is A5472, and the identifier for International Disposal Corporation of CA is A9013. Facility # A9013 includes the landfill operation that triggered the designated facility determination for this site. Because the landfill at A9013 and the recycling operations at A5472 are on adjacent properties and under common ownership, BFI has included the recycling operations in their Title V permit application. Typically, the facility identifier is also considered to be the identifier for the permit, but the permit can have only one identifier. In this case, the permit identifier is A9013, because this site is the designated facility.

The District issued the initial Title V permit to this facility on February 5, 2004. A minor revision application (AN 10688) to address NSR applications 8121, 11388, and 13071 was issued on August 25, 2006. Although the current permit expired on January 31, 2009, it continues in force until the District takes final action on the permit renewal.

The purpose of this action is to renew the combined Title V Permit for these two facilities (A5472 and A9013). In addition, this application will integrate changes brought about by Permit Applications 13277, 18443, and 23393. Application 13277 was an application to modify Condition 10423 to accommodate an alternative wellhead standard. Application 18443 and

23393 addressed ongoing routine physical modifications due to well raising and other landfill gas production optimization projects. The above permit applications are included in this Statement of Basis. There are no emissions increases associated with applications 13277, 18443, or 23393. Neither the design capacity of the landfill nor the waste acceptance rate has changed; therefore, the estimated production volume of landfill gas is not expected to increase above the current maximum projected landfill gas generation rate. The changes that were made pursuant to applications 13277, 18443 and 23393 address the normal operational and physical modifications which must be made at landfills from time to time to handle landfill gas extraction in the most efficient and effective way possible. The engineering evaluations for applications 13277, 18443, 23393 are included in Appendix D, E, and F of this Statement of Basis.

The standard sections of the permit have been upgraded to include new standard language used in all Title V permits. The proposed renewal permit clearly shows all proposed changes to the permit in "~~strikeout~~/underline" format. In this action, the District is soliciting public comment only on the revisions proposed in this action. When the permit is finalized, the tracking marks will be removed.

Pursuant to Regulation 2, Rule 6, Section 416, the District has reviewed the terms and conditions of this Major Facility Review permit and determined that they are still valid and correct. This review included an analysis of applicability determinations for all sources, including those that have been modified or permitted since the issuance of the initial Major Facility Review Permit. The review also included an assessment of all monitoring in the permit for sufficiency to determine compliance.

This statement of basis does not address the factual and legal basis for any other permit terms. These are addressed in the comprehensive statements of basis that were prepared for the initial issuance of the permit and subsequent reopenings and revisions. These are available on request.

B. Facility Description

The International Disposal Corporation of California (Facility # A9013) is an active municipal solid waste disposal site that is equipped with an active landfill gas collection system and two enclosed landfill gas flares (A-1 and A-2). This site also includes a non-retail gasoline dispensing facility (S-4 and G#9641). Originally, all landfill activities were permitted under a single source number: the Newby Island Sanitary Landfill (S-2). The description of this source is being modified to Newby Island Sanitary Landfill - Waste Decomposition Process such that S-2 will now include only the waste decomposition related processes, emissions, and emission controls. Two new source numbers were added to account for particulate emissions from active waste disposal activities: S-5 Newby Island Sanitary Landfill - Waste and Cover Material Dumping and S-6 Newby Island Sanitary Landfill - Excavating, Bulldozing and Compacting Activities. This site occupies approximately 342 acres, of which 313 acres are permitted for disposal. The landfill primarily accepts non-hazardous household, commercial, agricultural, industrial, construction, and demolition wastes, but also accepts non-friable asbestos, tires, dredged soils, primary sewage sludge at 20-percent solids, secondary sludge at 15-percent solids, and petroleum contaminated soils. The landfill has a maximum design capacity of 50.8 million

yd³ (38.8 million m³) and 39.0 million tons (35.4 million Mg) of waste and currently contains approximately 27.3 million tons (24.8 million Mg).

Landfills generate landfill gas due to the waste decomposition process. The landfill gas contains methane and carbon dioxide (which are greenhouse gases: GHG) and small amounts of non-methane organic compounds (NMOC) and sulfur compounds. Many of the NMOCs are precursor organic compounds (POC), and many NMOCs and also toxic air contaminants (TACs) and hazardous air pollutants (HAPs). Hydrogen sulfide, a TAC, makes up about 95% or more of the sulfur compounds. District and EPA regulations require that landfill gas from larger landfills be continuously collected and controlled to reduce emissions of NMOCs to the atmosphere. These collection and control requirements also reduce GHG, TAC, and HAP emissions.

As required by various local, state, and federal regulations, the landfill at this site is equipped with an active landfill gas collection system. Landfill gas collection systems are perforated pipes that are buried in the refuse at numerous locations. For active collection systems, the perforated pipes are connected to blowers by solid pipes (referred to as laterals and headers). The blowers maintain a vacuum in the buried refuse and draw landfill gas into the perforated pipes. The blowers then vent this collected landfill gas to control equipment.

Landfill gas produced at the Newby Island Landfill enters one of two gas collection and control systems. The first system located on the northeast/northern perimeter of the site was installed in 1992 and previously consisted of (80) gas collection wells. Gas collected by this system is piped off-site to Gas Recovery Systems (Facility #B1670) to be used for electrical power generation. The second gas collection and control system, located in the southwest portion of the site, was completed in 1998, modified in 2002, and previously consisted of (43) gas collection wells. Gas collected by this system is combusted on-site at the enclosed flares (A-1 or A-2). The total current count for both sites is 233 vertical wells. All gas collection system components from both systems and the flares are included in this Title V permit, the off-site sources associated with the end use of the gas collected by the first gas collection system are included in the Title V permit for Facility # B1670 and referenced in this permit.

In addition to A9013, BFI also owns and operates a wood waste composting facility known as BFI – The Recyclery (Facility # A5472). BFI - The Recyclery includes a Composting Operation (S-3) and a Water Truck (A-3). A Tub Grinder (S-5), a Tub Grinder Engine (S-6), a Trommel Screen (S-7), and Water Sprays (A-7) have been eliminated and were replaced by S-8 PERP Registered Tub Grinder and S-9 PERP Registered Trommel Screen Operations.

C. Permit Content

Additional information concerning the legal and factual basis of the Title V permit conditions is presented below. The permit sections are described in the order presented in the Title V permit. Routine changes to the standard permit text in Sections I “Standard Conditions”, III “Generally Applicable Requirements”, and XI “Glossary” are not considered part of the Title V permit renewal process, but may be made at the discretion of the District during the term of this 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. This permit does not include Title IV or accidental release provisions.

Many of these conditions derive from 40 CFR § 70.6, Permit Content, and BAAQMD Regulation 2-6-409, Permit Content, which dictate 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 Permit, Section I:

- The District is updating the dates of adoption and approval of rules in Standard Condition 1.A.
- The District is adding the toxic NSR rule: BAAQMD Regulation 2, Rule 5 “New Source Review for Toxic Air Contaminants” to Standard Condition 1.A, which was adopted since the initial Title V permit. However, this rule is not federally enforceable.
- SIP Regulation 2, Rule 6 – Permits, Major Facility Review has been added to Standard Condition 1A.
- The District is adding the following language to Standard Condition I.B.1: “If a complete application for renewal has been submitted in accordance with the above deadlines, the existing permit will continue in force until the District takes final action on the renewal application.” This is the “application shield” pursuant to BAAQMD Regulation 2-6-407.
- The basis for Standard Condition I.B.11 is being amended by adding “Regulation 2-6-409.20” to conform to changes in Regulation 2, Rule 6.
- The following language is added as Standard condition I.B.12: “The permit holder is responsible for compliance, and certification of compliance, with all conditions of the permit, regardless whether it acts through employees, agents, contractors, or subcontractors. (Regulation 2-6-307).” The purpose is to reiterate that the Permit Holder is responsible for ensuring that all activities at the facility comply with all applicable requirements.
- The District is correcting errors in the bases for Standard Conditions I.E.2 and I.F by deleting “Regulation 3;” from these bases.

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., S24). Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302.

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 Rule 2-6-222, per year or 400 pounds of a “hazardous air pollutant,” as defined in BAAQMD Rule 2-6-210, per year. The District has determined that two sources are significant; S-8 and S-9 are identified in Table II-C and included in this permit. These significant sources are PERP registered sources, exempt from BAAQMD permit requirements, but which meet the definition of significant in Regulation 2, Rule 6, Section 239:

2-6-239 Significant Source: A source that has a potential to emit of more than 2 tons per year of any regulated air pollutant, or more than 400 lbs per year of any hazardous air pollutant.

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-24). If a source is also an abatement device, such as when an engine controls VOC emissions, it will be listed in this table but will have an “S” number. An abatement device that is also a source (such as a thermal oxidizer that burns fuel) will have an “A” 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.

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

The sources at the AFC site, which are addressed in this permit are as follows (identified by an S number):

- S-2 Newby Island Sanitary Landfill – Waste Decomposition Process with Gas Collection System (Facility # A9013)
- S-3 Composting Operation (Facility #A5472)
- S-4 Gasoline Dispensing Facility (Facility # A9013 and G# 9641)
- S-5 Newby Island Sanitary Landfill -Waste and Cover Material Dumping (Facility # A9013)

- S-6 Newby Island Sanitary Landfill - Excavating, Bulldozing and Compacting Activities (Facility # A9013)

The abatement devices are as follows (identified by an A number):

- A-1 Landfill Gas Enclosed Flare #1 (Facility # A9013)
- A-2 Landfill Gas Enclosed Flare #2 (Facility # A9013)
- A-3 Water Truck (Facility # A5472)

The significant sources are as follows:

- S-8 PERP Registered Horizontal Grinder/Operations – BAAQMD Exempt (Facility #5472)
- S-9 PERP Registered Registered Trommel Screen/Operations –BAAQMD Exempt (Facility #5472)

The following changes are proposed in this action:

Source S-2 Newby Island Sanitary Landfill with Gas Collection System:

Application 13277 added alternative wellhead standards as follows:

- 1) Increase the maximum oxygen content for 22 LFG extraction wells from 5% to 15%.
- 2) Increase the maximum allowable temperature for 31 LFG extraction wells from 131 °F to 145 °F.

Application 23393 authorized modification of the physical design of the LFG extraction system as follows:

- 1) Install up to 100 additional vertical wells.
- 2) Install up to 20 new horizontal collectors.
- 3) Decommission up to 150 vertical wells\
- 4) Decommission up to 15 horizontal collectors
- 5) Replace unlimited existing vertical wells.

In a letter dated April 25, 2012, Republic Services, Inc., requested to change the permit conditions for the landfill Gas Collection and Control System to allow additional wells with wellhead temperatures above 131 °F to 145 °F, and one well to 150 °F. Also, other wells meeting the permit condition criteria may be added to the list of wells above 131 °F to 145 °F.

Tub Grinder (S-5) + Tub Grinder Engine (S-6) and Trommel Screen, A-7 Water Sprays:

These sources at Plant #5472 (BFI-The Recyclery) were archived in favor of bringing in PERP equipment on an as-needed basis to handle the green waste processing. The new exempt sources are designated S-8 Tub Grinder Operations and S-9 Trommel Screen Operations and have been added to the list of sources. These are portable sources registered in the CARB Portable Equipment Registration Program (PERP). Two IC Engines powering the Tub Grinder and Trommel Screen are also PERP registered. PERP registered portable sources are exempt from District permitting per Regulation 2-1-105.3 unless the District determines that the PERP registration is not valid at a particular site or location.

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. They may, however, be specifically described in a Title V permit if they are considered a significant source pursuant to the definition in BAAQMD Rule 2-6-239.

Changes to Permit, Section III:

- The District is adding EPA’s website address for the SIP standards to Section III.
- For Table III, the District is amending dates of adoption or approval of the rules, correcting the “federal enforceability” status for these rules, and adding or deleting rules and standards to conform to current practice. The rules that are being amended, added or removed are listed below:
 - Regulation 1, General Provisions and Definitions
 - Regulation 2, Rule 1, Permits – General Requirements
 - Regulation 2, Rule 5, Permits – New Source Review of Toxic Air Contaminants
 - Regulation 6, Rule 1, Particulate Matter – General Requirements
 - Regulation 8, Rule 2, Organic Compounds – Miscellaneous Operations
 - Regulation 8, Rule 3, Organic Compounds – Architectural Coatings
 - Regulation 8, Rule 4, Organic Compounds – General Solvent and Surface Coating Operations
 - Regulation 8, Rule 15, Organic Compounds – Emulsified and Liquid Asphalts
 - Regulation 8, Rule 16, Organic Compounds – Solvent Cleaning Operations
 - Regulation 8, Rule 40, Organic Compounds – Aeration of Contaminated Soil and Removal of Underground Storage Tanks
 - Regulation 8, Rule 47, Organic Compounds – Air Stripping and Soil Vapor Extraction Operations
 - Regulation 9, Rule 1, Inorganic Gaseous Pollutants – Sulfur Dioxide
 - Regulation 9, Rule 2, Inorganic Gaseous Pollutants – Hydrogen Sulfide
 - California Health and Safety Code, Section 41750 et seq., Portable Equipment
 - California Code of Regulations, Title 17, Section 93105, Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying and Surface Mining Operations

- California Code of Regulations, Title 17, Section 93106, Asbestos Airborne Toxic Control Measure for Asbestos Containing Serpentine
- EPA Regulation 40 CFR Part 61, Subpart A, National Emission Standards for Hazardous Air Pollutants – General Provisions.

IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements for 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
- SIP Rules (if any) listed following the corresponding District Rules. SIP rules are District rules that have been approved by EPA into 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 portions of the SIP rule are cited separately after the District rule. The SIP portions will be federally enforceable; the non-SIP versions will not be federally enforceable, unless EPA has approved them 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 (unless they have been assigned a District permit condition number, in which case they are included as BAAQMD 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 changes to monitoring is included in Section C.VII of this permit evaluation/statement of basis.

Complex Applicability Determinations:

EG, NSPS, NESHAP, and District Regulations for Landfills

Landfills and landfill gas combustion equipment are subject to BAAQMD Regulation 8, Rule 34. This regulation requires landfills that have more than 1 million tons of refuse in place to collect and control the landfill gas that is generated by waste decomposition and specifies numerous operating, monitoring, and reporting requirements for subject operations. Regulation 8, Rule 34 has required that the landfill at this site be controlled by an active landfill gas collection system and a landfill gas control system since 1987.

Landfills and landfill gas combustion equipment are also potentially 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. The EG for MSW Landfills (40 CFR Part 60, Subpart CC) applies to landfills that have had no design capacity modification since May 30, 1991 but that have accepted waste since November 8, 1987. BFI-Newby Island Landfill has not had a design modification since 1991, but has accepted waste after November 8, 1987. Therefore the EG regulations are applicable to this landfill.

In addition to Regulation 8, Rule 34, landfill operations and landfill gas combustion devices are also subject to numerous other BAAQMD regulations and permit conditions. All applicable requirements are described in Section IV of the permit.

Applicability of Regulation 8, Rules 2 and 40 for Active Landfills

The BFI-Newby Island Landfill primarily accepts non-hazardous household, commercial, agricultural, industrial, construction, and demolition wastes, but also accepts non-friable asbestos, tires, dredged soils, primary sewage sludge at 20-percent solids, secondary sludge at 15-percent solids, and petroleum contaminated soils. The materials processed include green wastes (stumps, tree trimmings, yard waste), and construction debris. Since contaminated or VOC-laden fill material is accepted, Regulation 8, Rules 2 and 40 applies to S-5 and S-6 and are included in Table IV-A. Also, the procedures for disposal and handling of contaminated or VOC-laden soils are addressed in the permit conditions.

Compliance Assurance Monitoring (CAM)

Sources at Title V facilities may be subject to the Compliance Assurance Monitoring (CAM) requirements in 40 CFR, Part 64. A source must meet all three of the criteria specified in 40 CFR Part 64.2(a)(1-3) in order for CAM to apply. First, the source must be subject to an emission limit for a regulated air pollutant other than an exempt limitation. Second, the source must use a control device to achieve compliance with this emission limitation. Third, the pre-controlled emissions of the specific pollutant being controlled must be greater than the major facility emissions threshold for that pollutant.

At this facility, the landfill and its related emission control devices (S-2, A-1 and A-2) 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), because the landfill and landfill gas control systems are subject to the federal Emission Guidelines and NESHAPS. Since the applicable federal requirements contain adequate monitoring provisions, additional compliance monitoring is not necessary. In addition, the uncontrolled emissions of precursor organic compounds from the landfill are less than the major facility emissions threshold of 100 tons of POC per year. Thus, S-2 does not meet the third CAM applicability criteria from 40 CFR Part 64.2(a)(3). Since the landfill and its related control devices do not satisfy all three CAM applicability criteria, CAM does not apply to S-2, A-1 and A-2.

The S-3 Composting Operation is using the A-3 Water Truck to control PM emissions. Uncontrolled PM emissions from S-3 are estimated to be about 4.7 tons/year. Since uncontrolled PM emissions are less than 100 tons/year from S-3, S-3 does not meet 40 CFR Part 64.2(a)(3), and CAM does not apply to S-3.

Changes to Section IV of the Title V Permit:

The changes to Section IV are to Table IV-A for S-2, S-5, and S-6 (Newby Island Sanitary Landfill operations) and A-1 and A-2 (Landfill Gas Flares), Table IV-B for Composting Operations, Table IV-C for S-4 Non-Retail GDF, deletion of Table IV-D and Table IV-E for the tub grinder and trommel screen equipment and tub grinder engine.

The specific changes to Section IV are as follows:

- Section IV is being modified by adding EPA's website address for the SIP standards.
- In Table IV-A, the amendment dates and descriptions for BAAQMD Regulation 1; BAAQMD Regulation 6, Rule 1; BAAQMD Regulation 8, Rule 2; BAAQMD Regulation 8, Rule 34; BAAQMD Regulation 8, Rule 40; BAAQMD Regulation 9, Rules 1 and 2; 40 CFR Part 60, Subpart A; and 40 CFR Part 63, Subparts A and AAAA are being updated pursuant to recent revisions to these rules. These rule amendments involved changes to definitions, descriptions, and citation references and do not impact the applicability of any of these specific requirements to S-2, S-5, or S-6. Editorial corrections are being made to the bases and descriptions of the applicable permit conditions.
- In Table IV-A the District added the alternative wellhead standards (maximum temperature and maximum percent oxygen) permitted under Application 13277. These changes are allowed under Regulation 8-34-305 and are explained in detail in AN 13277, copy attached to this Statement of Basis. Additionally the landfill gas well component (equipment) count changed under application 18443 and 23393.
- The new landfill source descriptions, S-5 Newby Island Sanitary Landfill -Waste and Cover Material Dumping and S-6 Newby Island Sanitary Landfill - Excavating, Bulldozing and Compacting Activities (Facility # A9013), have been added to Table IV-A.
- In Table IV-B for S-3 Composting Operations, the amendment dates and descriptions for BAAQMD Regulation 6, Rule 1, and the conditions referencing this regulation are being updated.
- In Table IV-C for S-4 Non-Retail Gasoline Dispensing Facility G# 9641, the amendment dates and descriptions for BAAQMD Regulation 8, Rule 5, Storage Tank Control Requirements were updated. Under the BAAQMD version of Regulation 8, Rule 5 tanks storing gasoline are exempt from Rule 5 and subject to Rule 7 instead. However, this version has not been adopted into the SIP yet. The SIP version of Regulation 8, Rule 5 contains several requirements for the above ground gasoline storage tank associated with this GDF that were added to Table IV-C. Certain BAAQMD Regulation 8, Rule 7 requirements that are not applicable to aboveground storage tanks, including Sections 302.15, 304, and 314, which deal with annual back pressure testing requirements for vapor balance systems and for vacuum assist systems, neither of which is applicable to above-ground gasoline storage tanks, have been removed. The SIP version of this rule is

same as the BAAQMD version and is being deleted from the permit. 40 CFR Part 63, Subpart CCCCCC, NESHAP for Gasoline Dispensing Facilities was added. State of California, Air Resources Board, Executive Order G-70-102-A and G-70-52-AM were added. Additionally, template BAAQMD Condition #16516 which addresses annual static pressure testing for aboveground gasoline storage tanks has been added to Table IV-C.

- Table IV-D, for S-5 Tub Grinder, S-7 Trommel Screen, and A-7 Water Spray, is being deleted since these sources are no longer exist.
- Table IV-D, for S-8 PERP Grinder and S-9 PERP Trommel Screen, is added.
- Table IV-E, for S-6 Tub Grinder Engine, is also being deleted.
- Table IV-D, for the PERP registered S-8 Horizontal Grinder and S-9 Trommel Screen, significant sources is added.

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 that 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.

The BAAQMD Compliance and Enforcement Division has conducted a review of compliance for the period from 8/25/2006 to 8/24/2012, and notes that BFI was in intermittent compliance from the initial permit period through the present. There was no evidence of ongoing noncompliance and no recurring pattern of violations. No violations were issued as a result of episodes. The compliance report is contained in Appendix A of this permit evaluation and statement of basis.

No changes to this section are proposed in this action.

VI. Permit Conditions

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. Each permit condition is identified with a unique numerical identifier, up to five digits.

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. When necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting has been added to the permit.

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 and all “underline” language will be retained, subject to consideration of comments received.

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 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 pursuant to Regulation 2, Rule 2.
- TRMP: This term was used for a condition imposed by the APCO to ensure compliance with limits that arise from the District’s former Toxic Risk Management Policy. In 2005, this Toxic Risk Management Policy was replaced by BAAQMD Regulation 2, Rule 5. References to TRMP are being replaced by citations of the applicable sections in BAAQMD Regulation 2, Rule 5. Neither the TRMP nor BAAQMD Regulation 2, Rule 5 are federally enforceable requirements.

Changes to Section VI of the Title V Permit:

In the case of this permit, the BFI Newby Island Landfill operations (S-2, S-5, and S-6) are grandfathered sources, and there has been no design capacity modification at these operations.

The District reviewed all of the permit conditions. Updates were made to the bases due to regulatory changes, and conditions that are obsolete or that have no regulatory basis have been deleted from the permit. Parameter monitoring has been added for each abatement device. Additional monitoring has been added, where appropriate, to assure compliance with the applicable requirements.

All permit condition changes are identified in the proposed permit. The new condition wording is underlined and text to be removed is shown in strikeout format.

Condition # 8178 for S-3 Composting Operation at Site # A5472 BFI-The Recyclery:

Parts 1-4: The condition bases were updated to correct regulatory citations for Regulation 6, Rule 1.

Condition # 10423 for S-2, A-1, A-2, S-5, and S-6 Newby Island Landfill Operations and Flares:

The new landfill source descriptions for S-2, S-5, and S-6 were added to the source listing for this permit condition.

Part 2m: Typographical errors were corrected.

Part 4: The regulatory citation for Regulation 6, Rule 1 was corrected in the basis for this part.

Part 5: The description of the offsite energy plant in this part was corrected.

Parts 6-7: The permit condition changes made pursuant to Applications # 13277, 18443 and 23393 were incorporated into this proposed permit. These changes included the addition of alternative wellhead standards and modifications to the landfill gas collection system description and alteration provisions. The Part 7 gas collection system operating requirements were moved to Part 6. Additional wells with temperatures over 131 to 145 °F were added based on a request in letter dated April 25, 2012.

Part 9 and 12: The bases were corrected: the District's toxic risk management policy was replaced by BAAQMD Regulation 2, Rule 5.

Part 10: Typographical errors were corrected.

Part 13: The regulatory citation for Regulation 6, Rule 1 was corrected in the basis for this part.

Part 14: Obsolete language was deleted.

Conditions # 14098 and # 16516 for S-4 Non-Retail Gasoline Dispensing Facility G# 9641:

There was no change to Condition 14098 for the S-4 non-retail gasoline dispensing facility. Template Condition 16516 is being added to the permit as a guideline in performing and reporting leak testing on aboveground storage tanks.

Condition # 15050 for S-5 Tub Grinder, S-7 Trommel Screen, A-7 Water Sprays:

This entire condition is being deleted because all of this equipment was shut down and the permits were surrendered.

Condition # 19498 for S-6 Tub Grinder Engine:

This entire condition is being deleted because this engine has been removed and the permit was surrendered.

VII. Applicable Limits and Compliance Monitoring Requirements

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

The District has reviewed all monitoring and has determined the existing monitoring is adequate with the following exceptions.

The tables below contain only the limits for which there is no monitoring or inadequate monitoring in the applicable requirements. The District has examined the monitoring for other limits and has determined that monitoring is adequate to provide a reasonable assurance of compliance. Calculations for potential to emit will be provided when no monitoring is proposed due to the size of a source.

Monitoring decisions are typically the result of balancing several different factors including: 1) the likelihood of a violation given the characteristics of normal operation, 2) 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) whether there is 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. It is possible that, where 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.

SO₂ Discussion:

All of the combustion devices located at this facility burn fuels that contain small amounts of sulfur compounds and emit sulfur dioxide (SO₂) as a product of combustion. Therefore, each of these devices will contribute to the ground level SO₂ concentration at the fence line of this site, and all of these combustion devices are subject to Regulation 9-1-301 ground level SO₂ limits. The District is not proposing any ground level SO₂ monitoring for this facility because the likelihood of non-compliance with these ground level SO₂ limits is very low. Ground level SO₂ monitoring is very expensive. This type of expensive monitoring is not justifiable in light of a high margin of compliance and low actual SO₂ emission rates from the equipment at this site.

SO₂ Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
A-1 and A-2 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 300 ppm (dry)	NONE

Maximum Expected SO₂ Emissions from Site # A9013

Sources	Description	Fuel Sulfur Content	SO ₂ Emissions Tons/Year
A-1	Landfill Gas Flare	300 ppmv of TRS in LFG (Permitted Maximum Level)	36.58
A-2	Landfill Gas Flare	300 ppmv of TRS in LFG (Permitted Maximum Level)	32.83
Total	All Combustion Sources		69.40

A-1 Maximum Permitted Level SO₂:

$$\frac{(732,095 \text{ MM Btu/yr}) / (496.943 \text{ Btu/scf}) * (300 \text{ ft}^3 \text{ S} / 1\text{E}6 \text{ ft}^3 \text{ LFG}) / (387.006 \text{ ft}^3 \text{ S} / \text{lbmol S}) * (1 \text{ lbmol SO}_3 / 1 \text{ lbmol S}) * (64.06 \text{ lb SO}_2 / \text{lbmol SO}_2) / (2000 \text{ lbs SO}_2 / \text{ton SO}_2)}{= 36.58 \text{ tons/yr SO}_2}$$

A-2 Maximum Permitted Level SO₂:

$$\frac{(657,000 \text{ MM Btu/yr}) / (496.943 \text{ Btu/scf}) * (300 \text{ ft}^3 \text{ S} / 1\text{E}6 \text{ ft}^3 \text{ LFG}) / (387.006 \text{ ft}^3 \text{ S} / \text{lbmol S}) * (1 \text{ lbmol SO}_3 / 1 \text{ lbmol S}) * (64.06 \text{ lb SO}_2 / \text{lbmol SO}_2) / (2000 \text{ lbs SO}_2 / \text{ton SO}_2)}{= 32.83 \text{ tons/yr SO}_2}$$

Landfill Gas Sulfur Content Data for Site # A9013

Date	Source Test #	Location	Sulfur Content ppm as H ₂ S
4/5/2006	OS-1437	Flare Station A-1	45

Landfill Gas Sulfur Content Data for Site # A9013

Date	Source Test #	Location	Sulfur Content ppm as H ₂ S
3/29/2007	OS-1882	Flare Station A-1	180
5/31/2007	OS-1943	Flare Station A-1	84
3/19/2008	OS-2352	Flare Station A-1	95
3/19/2008	OS-2353	Flare Station A-2	103
Average			101

BAAQMD 9-1-301 for A-1 and A-2 Landfill Gas Flares:

Air dispersion modeling at other landfill sites has demonstrated that landfill gas combustion equipment that is complying with Regulation 9-1-302 will result in ground level SO₂ concentrations that are less than the 9-1-301 limits. The A-1 and A-2 Landfill Gas Flares are subject to the Regulation 9-1-302 limit of 300 ppmv of SO₂ in the exhaust. This landfill is subject to a federally enforceable limit of 300 ppmv of total reduced sulfur (TRS) compounds in the landfill gas to ensure compliance with the New Source Review rule (Reg. 2-1-301), which is equivalent to an outlet SO₂ concentration of 63 ppm SO₂ at 0% excess O₂. At this maximum TRS concentration, the compliance margin is more than 4:1 (300 ppmv of SO₂ in the exhaust versus 63 ppmv of SO₂ at the maximum permitted limit). Landfill gas is monitored for total reduced sulfur content (on a quarterly basis) to ensure compliance with the maximum permitted TRS concentration limit. Site testing indicates the average TRS concentration in the BFI landfill gas is less than 101 ppmv. At this average concentration, the average outlet concentration is 21 ppmv of SO₂, and the compliance margin with the Regulation 9-1-302 limit is more than 14:1. The maximum permitted emissions from A-1 and A-2 are 69.4 tons/year of SO₂ based on the maximum permitted landfill gas sulfur concentration of 300 ppmv as H₂S. Actual emissions from A-1 and A-2 are less than 2.0 tons/year of SO₂. Ground level SO₂ monitoring is very expensive. Considering the high likelihood of compliance, low emissions, and the high cost of monitoring, monitoring for ground level SO₂ concentrations to demonstrate compliance with the Regulation 9-1-302 limit, in addition to the current quarterly landfill gas monitoring, would not be appropriate.

H₂S Discussion:

As discussed above, landfill gas contains sulfur compounds including hydrogen sulfide (H₂S). Although most of the landfill gas at this site is captured and controlled, there will still be some fugitive landfill gas emissions from the surface of the landfill (S-2) and some residual landfill gas emissions that are not destroyed by the flares (A-1 and A-2). These fugitive and residual landfill gas emissions from S-2, A-1 and A-2 will contain small quantities of H₂S. Therefore, S-2, A-1 and A-2 are subject to the non-federally enforceable ground level H₂S limits in BAAQMD Regulation 9-2-301.

In consideration of the high likelihood of compliance with the ground level H₂S limits, the low H₂S emissions from this site, and the high cost of ground level H₂S monitoring, the District has

determined that ground level H₂S monitoring (in addition to the quarterly landfill gas sulfur monitoring that is already occurring) is not justifiable or necessary.

H₂S Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-2 BFI- Newby Island Landfill and A-1 and A-2 Landfill Gas Flares	BAAQMD 9-2-301 (not a federally enforceable limit)	Property Line Ground Level Limits: ≤ 0.06 ppm for 3 minutes, AND ≤ 0.03 ppm for 60 minutes	NONE

BAAQMD 9-2-301 for S-2 BFI Newby Island Landfill and A-1 and A-2 Landfill Gas Flares:

The concentration of hydrogen sulfide at the property line is expected to be well below the Regulation 9-2-301 limits. Furthermore, the actual hydrogen sulfide emissions are expected to be about 2.1 tons/year of H₂S, based on current projected landfill gas generation rates and the average site-specific H₂S concentration of 101 ppmv in landfill gas. Monitoring for ground level H₂S concentrations would not be appropriate for such low emission rates unless an on-going hydrogen sulfide odor problem has been documented.

Particulate discussion:

Active landfilling operations emit fugitive particulate matter. The bulk of the PM emissions from active landfills are due to fugitive road dust, primarily due to the hauling of waste to the site. These road dust emissions are typically controlled by regular sweeping of paved roads and the use of water sprays or other dust suppressants on unpaved areas. The dumping of waste and cover materials and the material handling operations associated with spreading and compacting waste and cover materials also generate smaller amounts of PM emissions. These operations are typically controlled by water sprays. Composting operations generate dust due to vehicle traffic, windrow turning, and other material handling operations. In addition, all combustion operations will emit small amounts of PM from the stack.

For the purpose of calculating particulate emissions in a new database, the District has created two new source numbers to separately account for activities associated with S-2 landfill that generate particulate emissions. These two new source numbers are S-5 Newby Island Sanitary Landfill -Waste and Cover Material Dumping (Facility # A9013) and S-6 Newby Island Sanitary Landfill - Excavating, Bulldozing and Compacting Activities (Facility # A9013). The particulate emissions previously associated with source S-2 landfill will be transferred to sources S-5 and S-6.

During the initial Title V permit evaluation, the District identified several District PM emission limits in Regulation 6 that applied to S-2 and that now apply to S-5 and S-6 instead. The District

also identified District PM emission limits that apply to the A-1 and A-2 Landfill Gas Flares and the S-3 Composting Operations at Facility #A5472.

In the initial Title V permit, the District added visual observation and record keeping requirements for dust mitigation measures employed at S-2 (these will now apply to S-5 and S-6 instead) to demonstrate compliance with the visible PM emission limit in Regulation 6, Rule 1, Section 301. Similar visual observation requirements were added to the initial Title V permit for the S-3 Composting Operation. The District has determined that the visual observation, calculation, and record keeping measures described above are sufficient to demonstrate compliance with Regulations 6-1-301. No changes to the permit conditions for the existing landfill operations are required at this time, but the District is clarifying here that these requirements now apply to S-5 and S-6 and not S-2. Record keeping measures are being added to Condition # 8178, Part 7b for the existing composting operations (S-3).

For the Regulation 6-1-301 Ringelmann 1 limit that applied to A-1 and A-2 and for the PM grain loading limit in Regulation 6-1-310 that applied to A-1 and A-2, the District determined in the initial Title V review for this site that PM monitoring was not justified. The District has reevaluated this decision and has concluded that monitoring at A-1 and A-2 Flares for compliance with the Regulation 6-1-301 Ringelmann 1 limit is not necessary, because the combustion of landfill gas is not expected to result in any visual emissions. The District also concludes that monitoring for compliance with the PM grain loading limit in Regulation 6-1-310 is not justified for A-1 or A-2. These decisions are discussed further below.

Particulate Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-3 Composting Operations (Facility # A5472) and S-5 Newby Island Sanitary Landfill - Waste and Cover Material Dumping (Facility # A9013) and S-6 Newby Island Sanitary Landfill - Excavating, Bulldozing and Compacting Activities (Facility # A9013)	BAAQMD 6-1-301	≤ Ringelmann No. 1 for < 3 minutes/hr	Visual observation of the source during material handling and Records of watering activities, dust suppressant use, and road cleaning events: Condition # 8178, Parts 4 and 7b for S-3 and Condition # 10423, Parts 2h, 2j(iii and vi), 4, and 13e for S-5 and S-6
A-1 and A-2 Landfill Gas Flares (Facility # A9013)	BAAQMD 6-1-301	≤ Ringelmann No. 1 for < 3 minutes/hr	NONE

Particulate Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
A-1 and A-2 Landfill Gas Flares (Facility # A9013)	BAAQMD 6-1-310	≤ 0.15 grams/sdcf	NONE

BAAQMD Regulation 6-1-301 for S-3: BFI will continue to demonstrate compliance with Regulation 6-1-301 by visually monitoring the composting operations, and associated stockpiles and loading/unloading operations for visible dust and by applying sufficient water to prevent visible emissions from occurring. This requirement is already specified in Condition # 8178, Part 4. BFI is currently required to control dust from composting operations and vehicle traffic and by employing dust mitigation measures as necessary to prevent an exceedance of the Ringelmann 1.0 limit (Condition # 8178, Parts 1-3). Dust mitigation measures include the application of water and/or dust suppressants on unpaved roads, composting areas, stockpiles, loading and unloading activities, and sweeping, watering, or other cleaning measures on paved roads and parking areas. The frequency of watering and sweeping schedules varies from several water applications per day for dry days to no watering or sweeping on rainy days. Record keeping requirements of all water and/or dust suppressant applications and road cleaning activities are being added to Condition # 8178, Part 7b to demonstrate compliance with the dust mitigation measure requirements of Parts 1 and 2. These record keeping requirements combined with the visual observation requirements above are adequate to ensure compliance with the Ringelmann 1.0 limit.

BAAQMD Regulation 6-1-301 for S-5 and S-6: BFI will continue to demonstrate compliance with Regulation 6-1-301 by visually monitoring the active filling operations and dust from vehicle traffic and by employing dust mitigation measures as necessary to prevent an exceedance of the Ringelmann 1.0 limit. Dust mitigation measures include the application of water and/or dust suppressants on unpaved roads, fill areas, stockpiles, and other dust prone operations and sweeping, watering, or other cleaning measures on paved roads and parking areas. The frequency of watering and sweeping schedules varies from several water applications per day for dry days to no watering or sweeping on rainy days. BFI's watering requirements are specified in Condition # 10423, Parts 2h, 2j(iii and vi), and 4. Record keeping requirements of all water and/or dust suppressant applications and road cleaning activities are specified in Condition # 10423, Part 13e. District inspectors will occasionally observe the landfill operations on dry days to ensure that BFI's dust mitigation measures are adequate to maintain compliance with the Ringelmann 1.0 limit.

BAAQMD 6-1-301 for A-1 and A-2 Landfill Gas Flares: Visible particulate emissions are normally not associated with combustion of gaseous fuels, such as natural gas or landfill gas. Natural gas is used as the flare pilot. Landfill gas is burned in the flares only when the other combustion sources (Gas Recovery Systems (Facility #B1670) internal combustion engines) are unable to use the landfill gas. The AP-42 emission factor is 0.0168 pounds/MM BTU for an enclosed ground flare burning landfill gas. Maximum potential emissions from A-1 and A-2, assuming all landfill gas is flared, is approximately 11.7 tons/year of PM₁₀. Since violations of

Ringelmann 1.0 limit are not expected, periodic monitoring for the Ringelmann limit is not appropriate for enclosed landfill gas flares.

BAAQMD Regulation 6-1-310 for A-1 and A-2: These combustion devices are subject to the grain loading standard of 0.15 grains/dscf pursuant to Regulation 6-1-310. There are no monitoring requirements to demonstrate compliance with this standard. However, as shown below, the PM emissions from each device are well below the grain loading limit. Based on the District's experience with permitting landfill gas flares, the District does not expect any excesses of this grain loading standard at A-1 or A-2. Since PM₁₀ emissions are not substantial and the likelihood of compliance is high, PM monitoring for this grain loading limit is not necessary.

A-1 and A-2:

$$(17 \text{ lbs PM}_{10}/1\text{E}6 \text{ ft}^3 \text{ CH}_4) * (0.45 \text{ ft}^3 \text{ CH}_4/\text{ft}^3 \text{ LFG}) / (4.406 \text{ ft}^3 \text{ flue gas}/\text{ft}^3 \text{ LFG}) * (7000 \text{ grains}/\text{lb}) = 0.012 \text{ grains PM}_{10}/\text{ft}^3 \text{ flue gas at } 0\% \text{ O}_2$$

PM₁₀ emissions based on the flare permit condition throughput limits:

A-1

$$(732,095 \text{ MM BTU}/\text{yr}) * (0.0168 \text{ lbs PM}_{10}/\text{MM BTU}) / (2000 \text{ lbs}/\text{ton}) = 6.15 \text{ tons}/\text{year of PM}_{10}$$

A-2

$$(657,000 \text{ MM BTU}/\text{yr}) * (0.0168 \text{ lbs PM}_{10}/\text{MM BTU}) / (2000 \text{ lbs}/\text{ton}) = 5.52 \text{ tons}/\text{year of PM}_{10}$$

POC Discussion:

POC Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-3 Composting Operations (Facility # A5472)	BAAQMD 8-2-301	Total Carbon Emissions: ≤ 15 pounds/day or ≤ 300 ppmv, dry basis	None

BAAQMD 8-2-301 for S-3 Composting Operations: BAAQMD Regulation 8-2-301 limits emissions from any operation to either 15 pounds/day of total carbon or less than 300 ppmv, dry, in an exhaust point. The organic emissions from this source are fugitive in nature and cannot be measured using the District's standard stack test measure (ST-7). Since no viable periodic monitoring methods are available to demonstrate compliance with Regulation 8-2-301 at fugitive emission sources, the District relies on alternative compliance demonstration methods. In accordance with Condition # 8178, this source is required to employ measures to reduce emissions and odors. Odorous emissions would likely be detected before the operation exceeds the Regulation 8-2-301 300 ppmv total carbon concentration limit. Therefore, the District expects that the current monitoring measures at S-3 to prevent odorous emissions are sufficient to assure compliance with Regulation 8-2-301.

Changes to Section VII of the Title V Permit:

The District added language to clarify that Section VII is a summary of the limits and monitoring requirements and that Sections I-VI take precedence over Section VII. Changes to each Section VII table are presented below.

Table VII-A for S-2, A-1, A-2, S-5, and S-6:

- The applicable regulatory citations for the Ringelmann 1.0 limit were corrected.
- The new compost feed stock throughput limits and the associated record keeping requirements were added to Table VII-B.

Table VII-C for S-4:

- The SIP Regulation 8, Rule 5 limits for pressure vacuum valves on tanks (Sections 303.1 and 303.2) were added to Table VII-C.
- Several missing limits from Regulation 8, Rule 7 (Sections 301.2 and 302.4, 8, and 12-14) were added to this table.

Tables VII-D for S-5 and S-6 and VII-E for S-5 were deleted because the associated sources have been removed from the District permits at these facilities.

Table VII –D for S-8 and S-9:

- Table IV-D for the PERP registered S-8 Horizontal Grinder and S-9 Trommel Screen significant sources is 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 VI of the permit.

Changes to Section VIII of the Title V Permit:

- In Table VIII, the District is correcting citations and adding the missing EPA reference methods for Regulation 6, Rule 1 requirements.
- EPA and BAAQMD test methods for analyzing Total Organic Compounds for Miscellaneous Operations was added regarding Regulation 8-2-301.
- The EPA test method for determination of VOC leaks was added for SIP Regulation 8-5-303.2.
- Several BAAQMD test procedures for BAAQMD Regulation 8, Rule 7 limits were added or revised.

- Descriptions of the limits for various sections of Regulation 8, Rule 34 were corrected.
- An obsolete integrated sampling method for Regulation 9-1-302 was removed. Fuel sulfur content testing is no longer required since all diesel fuel sold in California is ultra low sulfur diesel (15 ppm sulfur). Diesel engine source testing is rarely required for Prime Engines, since the engines are CARB Certified and may be permitted to use CARB verified emission control technology.
- New CARB and ASTM procedures were added for fuel oil sulfur determinations related to Regulation 9-1-304 and CARB diesel oil sulfur limits.
- For Condition #10423, Parts 10a and 12, the District is replacing the Draeger tube test method with the appropriate EPA and BAAQMD test methods for analyzing sulfur compounds in a gas.
- A reference to the applicable test methods for the Condition # 10423, Part 11 compliance demonstration test was added.
- Requirements associated with Conditions #15050 and #19498 were deleted. These references pertain to source testing the tub grinder and trommel screen and the tub grinder engine, which have been removed from the District permits for this site.
- For Condition #16516, the procedure to static pressure testing of aboveground tanks was added.

IX. Permit Shield:

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in a major facility review permit that identifies and justifies specific federally enforceable regulations and standards are not applicable to a source or group of sources, or (2) A provision in a major facility review permit that identifies and justifies specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting which 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, recordkeeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

No permit shields were requested by the applicant.

Changes to Permit, Section IX:

- The District is not proposing any changes to this section.

X. Revision History

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

Changes to Section X of the Title V Permit:

- The section title was missing and has been added to this permit.
- The District is adding a description of the permit revisions associated with Minor Revision Application #10688.
- The District is adding a description of the permit revisions associated with this MFR Renewal Permit (Application # 18703).

XI. Glossary

This Glossary defines acronyms and terms that are used throughout the permit.

Changes to Section XI of the Title V Permit:

- The District is adding a number of terms to Section XI.

XII. State Implementation Plan:

This section contained the EPA web site address for the District's SIP approved rules. This address has been moved to Sections III and IV of the permit, and Section XII is no longer necessary.

Changes to Section XII of the Title V Permit:

- The District is deleting Section XII.

D. Alternative Operating Scenarios

No alternate operating scenarios have been requested for this facility.

E. Compliance Status

An August 24, 2012 office memorandum from the Director of Compliance and Enforcement to the Director of Engineering presents a review of the compliance record of the Newby Island Landfill facility owned by International Disposal Corporation (Site # A9013), which is now operated by Republic Services, Inc. In addition, an August 24, 2012 office memorandum from the Director of Compliance and Enforcement to the Director of Engineering presents a review of the compliance record of BFI – The Recyclery (Site # A5472), which is also operated by Republic Services. These reviews were initiated as part of the District evaluation of an application for renewal of a Title V permit. The reviews are contained in Appendix A.

The Compliance and Enforcement Division staff has reviewed the compliance history for Site # A9013 and Site # A5472 for the prior five-year permit term August 25, 2006 through August 24, 2012 and has reviewed the Annual Compliance Certifications submitted for these two sites between 2006 and 2012. Most recently, the owner of Site # A9013 and Site # A 5472 certified

that all equipment was operating in compliance on October 1, 2012. The Compliance and Enforcement Division staff found no on-going non-compliance and no recurring pattern of violations at either site.

During the review period (8/25/06 through 8/24/12), activities known to the District include:

- The District issued 3 Notices of Violation to Site # A9013. One violation was issued on 12/12/06 for the S-4 Gasoline Dispensing Facility for a violation of Regulation 8-7-301.13 for failure to complete the vapor tightness test at least once during a 12 month period. Two violations were issued on 8/30/07 for the S-2 Newby Island Landfill. The first violation was for the Regulation 8-34-305.4 wellhead oxygen standard, and the second violation was for the Regulation 8-34-303 surface leak limit.
- The District issued no Notices of Violation to Site # A5472.
- The District received 20 air pollution complaints alleging Newby Island Landfill (Site # A9013) as the source of odors. Only one complaint was confirmed to Newby Island Landfill, but this confirmed complaint did not result a violation.
- The District received 329 air pollution complaints alleging BFI – The Recyclery (Site # A5472) as the source of odors. Six complaints were confirmed to BFI – The Recyclery, but these confirmed complaints did not result in any violations.
- The District received 1 notification of a Reportable Compliance Activity (RCA) for Site # A9013 during this period. During 1/1/12 through 1/10/12, the analytical system stopped working for greater than 24 hours. This analytical system was repaired.
- The District received no notifications of a Reportable Compliance Activity (RCA) for Site # A5472 during this period.
- Site # A9013 is not operating under an Enforcement Agreement, a Variance, or an Order of Abatement.
- Site # A5472 is not operating under an Enforcement Agreement, a Variance, or an Order of Abatement.

The Compliance and Enforcement Division has determined that for the periods reviewed, Site # A9013 was in intermittent compliance and that Site # A5472 was in compliance. However, there is no evidence of on-going non-compliance and no recurring pattern of violations that would warrant consideration of a Title V permit compliance schedule for Sites A9013 or A5472.

F. Differences Between the Application and the Proposed Permit

The Title V permit application for renewal was originally submitted on July 31, 2008. Prior to this submittal, the Title V permit was last revised on August 25, 2006. The August 25, 2006 version of the Title V permit for Site # A9013 and Site # A5472 is the basis for constructing the proposed Title V permit.

On May 19, 2008, the operator submitted a request to change the Responsible Official and Plant Contact for this site to Rick King. This request was incorporated into the Title V renewal application and has been included in the proposed permit.

In the July 2008 application materials, the operator asked to remove S-5 Tub Grinder, S-6 Tub Grinder Engine, and S-7 Trommel Screen associated with Site # A5472 from the permit, because this equipment had been shut down. Portable equipment is now being used to perform the wood waste grinding and screening functions at this site. This portable equipment was registered with CARB through the Portable Equipment Registration Program (PERP). Equipment with a valid PERP registration is exempt from District permitting requirements pursuant to Regulation 2-1-105. PERP registered engines are exempt from Major Facility Review pursuant to Regulation 2-6-113. The District has removed S-5, S-6, and S-7 associated with Site # A5472 from the proposed permit.

In accordance with source description changes made during recent annual District permit renewal periods to ensure consistency among the District's permitted facilities, the District is proposing to:

- Split the S-2 Newby Island Landfill source at Site # A9013 into the following three sources: S-2 Newby Island Landfill – Waste Decomposition Process, S-5 Newby Island Landfill – Waste and Cover Material Dumping, and S-6 Newby Island Landfill – Excavating, Bulldozing, and Compacting Activities. The new source descriptions are identified in Tables II-A, IV-A, and VII-A, and in Condition # 10423.

In addition to the source and abatement device changes listed above, the District is proposing changes to several standard language sections, updates of regulatory amendment dates, inclusions of new generally applicable regulatory requirements, modifications of permit conditions pursuant to District approved permit applications, removal of non-applicable requirements, clarifications of numerous limits, changes to the glossary, and removal of Section XII. These revisions were not identified by the applicant.



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APPENDIX A
BAAQMD COMPLIANCE REPORT

COMPLIANCE & ENFORCEMENT DIVISION

Inter-Office Memorandum

August 24, 2012

TO: JIM KARAS – ACTING DIRECTOR OF ENGINEERING 
FROM: BARBARA COLER – ACTING DIRECTOR OF COMPLIANCE AND ENFORCEMENT 
SUBJECT: REVIEW OF COMPLIANCE RECORD OF:

INTERNATIONAL DISPOSAL CORPORATION OF CALIFORNIA;
(SITE # A9013)

Background

This review was initiated as part of the District evaluation of an application by International Disposal of California (Newby Island Landfill) for a Title V Permit Renewal. It is standard practice of the Compliance and Enforcement Division to undertake a compliance record review in advance of a renewal of a Title V Permit. The purpose of this review is to assure that any non-compliance problems identified during the prior year permit term have been adequately addressed, or, if non-compliance persists, that a schedule of compliance is properly incorporated into the Title V permit compliance schedule. In addition, the review checks for patterns of recurring violation that may be addressed by additional permit terms. Finally, the review is intended to recommend, if necessary, any additional permit conditions and limitations to improve compliance.

Newby Island is an active landfill operation.

Compliance Review

Compliance records were reviewed for the time period from August 25, 2006 through August 24, 2012. The results of this review are summarized as follows.

1. Violation History

Staff reviewed Newby Island Landfill Annual Compliance Certifications and found no ongoing non-compliance and no recurring pattern of violations.

Staff also reviewed the District compliance records for the review period. During this period, Newby Island Landfill activities known to the District include:
District-issued three Notice of Violations (NOV's):

REVIEW OF COMPLIANCE RECORD OF:
INTERNATIONAL DISPOSAL OF CALIFORNIA – SITE #A9013
 April 24, 2012
 Page 2 of 3

NOV#	Regulation	Date Occur	# of Days	Comments	Disposition
A48976	8-7-301.13	12/22/05	1	Source Test – 38 not conducted in 12 month period	Resolved
A48989	8-34-305.4	3/22/2006	1	Exceeded 5% Oxygen concentration and 120 days to repair	Resolved
A48990	8-34-303	8/16/07	1	Surface leak at base of well #118 > 500 parts per million (ppm)	Resolved

NOV#A48976 was issued on December 12, 2006 for gasoline storage tanks with a Phase I vapor recovery system failing to demonstrate compliance with vapor tightness standards of the regulation at least once in the preceding 12 month period.

NOV#A48989 was issued on August 30, 2007 for exceedance of 5% Oxygen concentration and 120 days to repair.

NOV#A48990 was issued on August 30, 2007 for a surface leak greater than 500 ppm at the base of well #118 under regulation 8-34-303.

2. Complaint History

The District received 22 air pollution odor complaints alleging Newby Island Landfill as the source. Out of these 20 odor complaints, one was confirmed to the Newby Island Landfill.

3. Reportable Compliance Activity

Reportable Compliance Activity (RCA), also known as “Episode” reporting, is the reporting of compliance activities involving a facility as outlined in District Regulations and State Law. Reporting covers breakdown requests, indicated monitor excesses, pressure relief device releases, inoperative monitor reports and flare monitoring.

Within the review period, the District received one notification for RCA. There were no NOV’s issued as a result of this RCA.

The District received one notification for RCA during the above period.

Episode	Date Occur	# of Days	Comments	Disposition
06D10	1/1/12- 1/10/12	10	Analytical system stopped working for > 24 hours	No action repairs made

REVIEW OF COMPLIANCE RECORD OF:

INTERNATIONAL DISPOSAL OF CALIFORNIA – SITE #A9013

April 24, 2012

Page 3 of 3

4. Enforcement Agreements, Variances, or Abatement Orders

There were no enforcement agreements, variances, or abatement orders for Newby Island Landfill review period.

Conclusion

Following its review of all available facility and District compliance records from August 25, 2006 through August 24, 2012, the District's Compliance and Enforcement Division has determined that Newby Island Landfill was in intermittent compliance from the initial permit period through the present. However, Newby Island Landfill has demonstrated no evidence of ongoing noncompliance and no recurring pattern of violations that would warrant consideration of a Title V permit compliance schedule for this facility.


Based on this review, the District has concluded that no schedule of compliance or change in permit terms is necessary beyond what is already contained in the facility's current Title V permit.

COMPLIANCE & ENFORCEMENT DIVISION

Inter-Office Memorandum

August 24, 2012

TO: JIM KARAS – ACTING DIRECTOR OF ENGINEERING 

FROM: BARBARA COLER – ACTING DIRECTOR OF COMPLIANCE AND ENFORCEMENT 

SUBJECT: REVIEW OF COMPLIANCE RECORD OF:

BFI – THE RECYCLERY
(SITE # A5472)

Background

This review was initiated as part of the District evaluation of an application by BFI - The Recyclery (BFITR) for a Title V Permit Renewal. It is standard practice of the Compliance and Enforcement Division to undertake a compliance record review in advance of a renewal of a Title V Permit. The purpose of this review is to assure that any non-compliance problems identified during the prior five-year permit term have been adequately addressed, or, if non-compliance persists, that a schedule of compliance is properly incorporated into the Title V permit compliance schedule. In addition, the review checks for patterns of recurring violation that may be addressed by additional permit terms. Finally, the review is intended to recommend, if necessary, any additional permit conditions and limitations to improve compliance.

BFITR is a wood chip and compost operation. They utilize food and green waste and recycles them to produce wood chips and compost.

Compliance Review

Compliance records were reviewed for the time period from August 25, 2006 through August 24, 2012. The results of this review are summarized as follows.

1. Violation History

Staff reviewed BFITR Annual Compliance Certifications and found no ongoing non-compliance and no recurring pattern of violations.

Staff also reviewed the District compliance records for the review period. During this period, BFITR had no violations issued by the District.

REVIEW OF COMPLIANCE RECORD OF:
BFI- The Recyclery – SITE #A5472
August 24, 2012
Page 2 of 2

2. Complaint History

The District received total of 329 complaints alleging BFITR as the source. Six complaints were confirmed to BFITR. These confirmed complaints did not result in any violations.

3. Reportable Compliance Activity

Reportable Compliance Activity (RCA), also known as "Episode" reporting, is the reporting of compliance activities involving a facility as outlined in District Regulations and State Law. Reporting covers breakdown requests, indicated monitor excesses, pressure relief device releases, inoperative monitor reports and flare monitoring.

Within the review period, the District received no notifications of RCA's to BFITR.

4. Enforcement Agreements, Variances, or Abatement Orders

There were no enforcement agreements, variances, or abatement orders for BFITR review period.

Conclusion

Following its review of all available facility and District compliance records from August 25, 2006 through August 24, 2012, the District's Compliance and Enforcement Division has determined that BFITR was in compliance from the initial permit period through the present. However, BFITR has demonstrated no evidence of ongoing noncompliance and no recurring pattern of violations that would warrant consideration of a Title V permit compliance schedule for this facility.

Based on this review, the District has concluded that no schedule of compliance or change in permit terms is necessary beyond what is already contained in the facility's current Title V permit.

APPENDIX B

COMPARISON OF ACTUAL EMISSION CALCULATIONS

Table 1. Actual 2010 Emissions for Sites # A9013 and A5472							
Device Number and Description	Throughput		Emissions (tons/year)				
			CO	PM10	NOx	POC	SO2
Facility #A9013							
S-2 Landfill with Gas Collection ^(a) Total LFG Collected from Landfill	1.50E+06	thou cubic ft/yr	0.00	0.00	0.26	0.00	0.00
Cumulative Decomposable Waste In Place	2.73E+07	tons-in-place	0.00	0.00	0.00	95.90	0.00
S-4 Non-Retail GDF: G# 9641 Gasoline	8.592	thous galyr	0.00	0.00	0.00	0.01	0.00
S-5 Waste and Cover Material Dumping Solid Waste	492996	tons/yr	0.00	27.94	0.00	0.00	0.00
Contaminated Soil	16306	tons/yr	0.00	0.00	0.00	0.05	0.00
S-6 Excavating, Bulldozing, and Compacting Solid Waste	492996	tons/yr	0.00	13.96	0.00	0.00	0.00
A-1 Landfill Gas Enclosed Flare Landfill Gas	450498	thou cu ft/yr	1.26	0.68	4.56	0.60	1.51
A-2 Landfill Gas Enclosed Flare Landfill Gas	16997	thou cu ft/yr	0.05	0.02	0.16	0.02	0.44
Facility Wide Emissions			1.31	42.60	4.98	96.59	1.95
Facility #A5472 ^(b)							
S-3 Composting Operations ^(c) Solid Waste (all feed stock)	159169	tons/yr	0.00	1.41	0.00	454.43	0.00
Facility Wide Emissions			0.00	1.41	0.00	454.43	0.00

(a) N₂O greenhouse gas emissions for S-2 Landfill Gas Collection are shown under NO_x

(b) For Facility 5472 Sources 5, 6 and 7 were replaced by Portable State Registered Equipment

(c) POC emissions were not previously calculated for composting operations. Emissions were estimated here based on the District's most recent estimate of the average POC emission factor for green waste windrow composting and curing piles: 5.71 pounds of POC/ton of feed stock. All of these POC emissions are considered to be fugitive emissions and are therefore excluded from the PTE determination for the site.

Table 2. Actual 2003 Emissions for Sites # A9013 and A5472							
Device Number and Description	Throughput		Emissions (tons/year)				
			CO	PM10	NOx	POC	SO2
Facility #A9013							
S-2 Landfill with Gas Collection ^(a)							
Total LFG Collected from Landfill	1725220	thou cubic ft/yr	0.00	0.00	0.29	0.00	0.00
Cumulative Decomposable Waste In Place	2.35E+07	tons-in-place	0.00	0.00	0.00	82.54	0.00
Solid Waste	733325	tons/yr	0.00	62.32	0.00	0.00	0.00
Contaminated Soil	56643	tons/yr	0.00	0.00	0.00	0.16	0.00
S-4 Non-Retail GDF: G# 9641							
Gasoline	940	thou gal/yr	0.00	0.00	0.00	1.46	0.00
A-1 Landfill Gas Enclosed Flare							
Landfill Gas	279990	thou cubic ft/yr	0.78	0.42	2.83	0.37	0.94
Facility Wide Emissions			0.78	62.74	3.12	84.54	0.94
Facility #A5472							
S-3 Composting Operations ^(c)							
Solid Waste (all feed stock)	234385	tons/yr	0.00	2.08	0.00	669.17	0.00
S-5 Tub Grinder ^(b)							
Solid Waste	58600	tons/yr	0.00	0.42	0.00	0.00	0.00
S-6 IC Diesel Engine for Tub Grinder ^(b)							
Diesel Oil	20.1	thou gal/yr	1.02	0.33	4.71	0.38	0.07
S-7 Trommel Screen ^(b)							
Solid Waste	42500	tons/yr	0.00	3.83	0.00	0.00	0.00
Facility Wide Emissions			1.02	6.66	4.71	669.55	0.07

(a) N₂O greenhouse gas emissions for S-2 Landfill Gas Collection are shown under NOx

(b) For Facility 5472 Sources 5, 6 and 7 were replaced by Portable State Registered Equipment

(c) POC emissions were not previously calculated for composting operations. Emissions were estimated here based on the District's most recent estimate of the average POC emission factor for green waste windrow composting and curing piles: 5.71 pounds of POC/ton of feed stock. All of these POC emissions are considered to be fugitive emissions and are therefore excluded from the PTE determination for the site.

Permit Evaluation and Statement of Basis for Application 18703: Site #A9013, BFI – The Recyclery and International Disposal Corporation of CA, 1601 Dixon Landing Road, Milpitas, CA 95035

APPENDIX C

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

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.

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, for example: pentane

C6

An organic chemical compound with six carbon atoms, for example: hexane

C₆H₆

Benzene

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_x 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.

CH₄ or CH₄

Methane

CI

Compression Ignition

CIWMB

California Integrated Waste Management Board

CO

Carbon Monoxide

CO₂ or CO₂

Carbon Dioxide

CT

Combustion Zone Temperature

Cumulative Increase

The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Used to determine whether threshold-based requirements are triggered.

District

The Bay Area Air Quality Management District

E6, 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, 4.53E6 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

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 (MACT), 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

GLM

Ground Level Monitor

Grains

1/7000 of a pound

GDF

Gasoline Dispensing Facility

H₂S or H₂S

Hydrogen Sulfide

H2SO4 or H₂SO₄

Sulfuric Acid

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.

Long ton

2200 pounds

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.

MIN or Min.

Minimum

MOP

The District's Manual of Procedures.

MSDS

Material Safety Data Sheet

MSW

Municipal solid waste

MW

Molecular weight

N2 or N₂

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)

NO₂ or NO₂

Nitrogen Dioxide

NO_x or NO_x

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.)

O₂ or O₂

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_x, PM₁₀, and SO₂.

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

PM10 or PM₁₀

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 operation, 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

Short ton

2000 pounds

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.

SO₂ or SO₂

Sulfur dioxide

SO₃ or SO₃

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 Units

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, which is a measure of the amount of sulfur-containing compounds in a gas stream, typically a fuel gas stream, including, but not limited to, hydrogen sulfide. The TRS content of a fuel gas determines the concentration of SO₂ that will be present in the combusted fuel gas, since sulfur compounds are converted to SO₂ by the combustion process.

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 ³	=	cubic feet
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
gr	=	grains
hp	=	horsepower
hr	=	hour
lb	=	pound
lbmol	=	pound-mole
in	=	inches
kW	=	kilowatts
m ²	=	square meter
m ³	=	cubic meters
min	=	minute
mm	=	million
MM	=	million
MM BTU	=	million BTU
Mcf	=	on thousand cubic feet
MMcf	=	million cubic feet
Mg	=	mega grams
MW	=	megawatts
ppb	=	parts per billion
ppbv	=	parts per billion, by volume
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

Permit Evaluation and Statement of Basis for Application 18703: Site #A9013, BFI – The Recyclery and International Disposal Corporation of CA, 1601 Dixon Landing Road, Milpitas, CA 95035

scfm	=	standard cubic feet per minute
sdcf	=	standard dry cubic feet
sdcfm	=	standard dry cubic feet per minute
yd	=	yard
yd ³	=	cubic yards
yr	=	year

APPENDIX D

ENGINEERING EVALUATION FOR APPLICATION # 13277

**ENGINEERING EVALUATION REPORT
FOR NSR APPLICATION 13277
NEWBY ISLAND LANDFILL**

PLANT NAME	International Disposal Corp-Newby Island Sanitary Landfill
PLANT NUMBER	A9013
APPLICATION NUMBER	13277 (NSR)
PLANT/SITE ADDRESS	1601 Dixon Landing Road/Milpitas
DATE	11 May 2006
ENGINEER	R.E. Frazier
PAGE	1 of 7

1. BACKGROUND

International Disposal Corporation of California owns and operates the Newby Island Sanitary Landfill (NISL) in Milpitas, CA. The source that is the subject of this permit application is the following existing source:

S-2 Newby Island Sanitary Landfill with Gas Collection System

This permit application was submitted by SCS Engineers, consultant to NISL, to request approval of alternative wellhead standards for percent oxygen and temperature. Specifically NISL has requested to increase the maximum oxygen limit from 5% (as specified in Regulation 8-34-305.4 and 40 CFR 60.753(c)) to 15% for 22 landfill gas extraction wells, as follows: EW-30R, EW-09, EW-13, 24, 54, 68, 71, 72, 101, 103, 13R, 20R, 213, 224, 235R, 237, 253, HC-201, HC-203, HC-204, HC-208, and MW-12.

NISL has also requested to increase the maximum temperature from 131 F to 145 for the following 31 landfill gas extraction wells: EW-10R, EW-11R, EW-39R, EW-40R, EW-14, EW-15, EW-24, EW-31R, EW-33, EW-35, 4, 5, A, B, D, E, 11, 14, 16, 19, 22, 25, 30, 3R, 9R, 106, 218, 241, 243, 31R, and 51R.

The alternative wellhead standards will be reflected in changes to permit condition 10423 for S-2.

2. EMISSIONS/DISCUSSION OF ALTERNATIVE STANDARDS

Regulation 8-34-305 specifies wellhead performance standards designed to minimize the potential for subterranean fires and/or landfill gas emissions. Section 8-34-305 requires each wellhead to operate under vacuum conditions with a maximum temperature of 131 F, and with either a maximum 20% nitrogen concentration or a maximum 5% oxygen concentration. Exceptions are allowed "if the operator has discovered the excess and has satisfied all requirements of Section 8-34-414 [Repair Schedule for Wellhead Excesses] or has received permit conditions containing alternative operating levels".

Accordingly, NISL has requested an alternative wellhead percent oxygen standard for 22 landfill gas wells and an alternative wellhead temperature standard for 31 landfill gas wells. Each of these alternative standard requests will be discussed in turn. All of the wells in questions have been shown to be operating in vacuum pressure condition and are expected to continue to do so.

Alternative Wellhead Percent Oxygen Standard: This standard (5% O₂ max, per 8-34-305.4) has been established to ensure reliable and proper wellhead operation, although it is not unusual to see wells operating properly at higher levels. Due to the variable nature of landfill operations, landfilled materials, soil overlay, compaction, density, moisture content, etc, it is not unusual to see considerable variation in the oxygen and nitrogen content from well to well. The District has found (previously reported in AN 13178) that very high oxygen levels (>15%) are often found at wellheads that have positive pressure and/or inadequate landfill gas flow from the well, potentially resulting in surface leaks near the wellhead area. In the present case, the operator has attributed the elevated oxygen levels to the construction of and subsequent raising of the wells, and not because of oxygen intrusion, since neighboring wells show no elevated oxygen concentrations.

To ensure that wells operating under an alternative wellhead O2 limit continue to function properly, it is District practice to limit the maximum O2 to 15%. NISL has requested an alternative oxygen standard of 15% at the 22 landfill gas wellheads listed in Part 1 of this Engineering Evaluation. The operator has investigated all of these wells and has concluded that the wells are operating properly. Condition 10423, Part 7 will be modified accordingly.

Alternative Wellhead Temperature Standard: Although the maximum temperature limit of 131F (55 C) is specified in 8-34-305.2, it is not unusual to observe higher temperatures on a routine basis at wells that are operating properly. According to published data, the observed subsurface landfill gas temperature during normal thermophilic bacterial reaction can range from 113 F to 149 F. Temperatures as high as 158 F have been observed with no subsurface combustion. Furthermore, due to the variable nature of landfill operations, landfilled materials, soil overlay, compaction, density, moisture content, etc, it is not unusual to see considerable variation in the wellhead temperature from well to well. NISL has requested an alternative maximum temperature standard of 145 F at the 31 landfill gas wellheads listed in Part 1 of this Engineering Evaluation. Temperatures at these wellheads run from a low of 68 to a high of 142 F. The operator has investigated all of these wells and has concluded that the wells are operating properly, with elevated temperatures indicative of aggressive microbial decomposition of the in-place refuse. Condition 10423, Part 6 will be modified accordingly.

No increased emissions are expected for either of these alternative wellhead standards.

3. STATEMENT OF COMPLIANCE

- A. Regulation 1 – General Provisions and Definitions:** §1-301: Prohibits discharging emissions in quantities that cause injury, detriment, nuisance, or annoyance. The proposed permit condition changes will not result in any increase in emissions and therefore is not expected to create any situation which violates Regulation 1-301.
- B. Permits – General Requirements, Regulation 2 Rule 1:** District policy requires that any modification or alteration of a Title V facility be evaluated via an NSR permit application, whether the change results in an emission increase or not. Exceptions to this rule would be for administrative changes. This change would result in a Minor Title V Permit modification – therefore an NSR permit application is required. According to the definitions found in 2-1-233, a permit application is required since the project would be deemed an alteration of a source.
- This source is not located within 1000 feet of the nearest school nor are there any increases in toxic emissions, therefore no public notification is required.
- C. Permits – New Source Review, Regulation 2 Rule 2 (BACT/Offsets):** BACT and offset issues are irrelevant since there are no emission increases.
- D. Permits- New Source Review, Regulation 2 Rule 2 (PSD):** None of the PSD triggers specified in 2-2-304 are triggered; therefore a PSD analysis is not required for this application.
- E. Permits - Regulation 2 Rule 5: Toxic Evaluation//BACT/Offsets:** There are not emissions increases resulting from this project therefore, no health risk screening evaluation is required for this evaluation.
- F. Permits - Regulation 2 Rule 6: Major Facility Review:** Since Newby Island Sanitary Landfill is a Title V major facility, a major facility permit revision is required. Application 13278 is the minor modification permit application for this alteration. In addition, Newby Island Sanitary Landfill has submitted an application for their regular 5-year interval title V renewal permit. This minor modification will also be included in the major facility permit renewal.
- G. Regulation 3 – Fees:** Newby Island Sanitary Landfill has complied with fee requirements for this permit application.
- H. Regulation 8 Rule 34:** Regulation 8-34-305 states:
- Wellhead Requirements:** Effective July 1, 2002 and except as provided in Sections 8-34-119 or 120, each wellhead in the gas collection system shall meet the requirements of Sections 8-34-305.1 and 305.2 and either 305.3 or 305.4, unless the operator has discovered the excess and has satisfied all of the requirements of Section 8-34-414; or the operator has received permit conditions containing alternative operating levels:

- 305.1 Each wellhead shall operate under a vacuum (negative pressure); and
- 305.2 The landfill gas temperature in each wellhead shall be less than 55° C (131° F); and either
- 305.3 The nitrogen concentration in each wellhead shall be less than 20% by volume; or
- 305.4 The oxygen concentration in each wellhead shall be less than 5% by volume.

While Regulation 8-34-305.4 establishes a default wellhead oxygen (O₂) limit of 5% by volume, alternative operating levels may be established. The proposed permit conditions will establish an alternative operating level of 15% O₂ for 22 wells. This elevated oxygen level is not expected to cause fires or to inhibit anaerobic decomposition. The permit holder will be required to demonstrate compliance with this alternative standard in accordance with Regulation 8-34-505, which requires monthly monitoring of all landfill gas wells for gauge pressure, temperature, and oxygen content.

Regulation 8-34-414 identifies a repair schedule that should be followed if an excess of a Regulation 8-34-305 wellhead limit is discovered. Permit conditions will clarify that this repair schedule should also be followed if an excess of the alternative oxygen concentration limit is discovered. However, permit application 13178 correctly noted that a potential conflict exists in the language of Sections 414.3 and 414.4. Section 414.3 states that the gas collection system shall be expanded, if the wellhead excess cannot be repaired within 15 days of the date that the excess was first discovered. In some cases, a landfill gas collection system expansion is not the appropriate way to bring collection system wells back into compliance with applicable wellhead standards. This is especially true for excesses of temperature limits or oxygen concentration limits. If fire is the suspected cause of a temperature excess, the appropriate response would be to temporarily disconnect the well from vacuum and extinguish the fire. For some wellheads that have oxygen concentrations in excess of the alternative limit, expanding the gas collection system could introduce more air into the wells and potentially make the problem worse. For many cases of wellhead oxygen concentration excesses, the appropriate corrective action is to repair or replace the particular well, monitoring point, or landfill surface near this well/monitoring point. Such corrective actions could return the well to compliant status, but would not constitute an “expansion” of the gas collection system. Due to the logistics of the necessary repair or replacement activities, it may not be possible to complete all necessary corrective actions within 15 days. For wells subject to alternative wellhead oxygen limits that require a corrective action pursuant to Section 414.3, the landfill gas collection system does not need to be “expanded” to correct the wellhead excess, if other corrective actions can be completed within the time period allowed pursuant to Section 414.4.

Although NISL has requested an alternative wellhead oxygen concentration limit of 15% by volume for 22 wells, the data submitted with this permit application shows that some of these wells have had instances of oxygen concentrations measuring above 15% O₂. Because of these very high oxygen readings, the District is concerned that these wells or the associated piping and monitoring equipment have vacuum system leaks that may be impairing the proper functioning of these wells and that may lead to surface emission excesses. To ensure that approving elevated oxygen levels at these wells will not result in emission increases, the District recommends that surface emission monitoring frequency be increased in the vicinity of these wells. The specific proposed surface emission monitoring procedures for these wells are described in detail in the Permit Conditions section of this report. In the event that there are no excesses of the 8-34-303 surface emission limit are detected for six consecutive months, NISL may discontinue the additional monthly monitoring in the vicinity of the wellhead in question.

I. NSPS/NESHAPS

NSPS Requirements: The Newby Island Sanitary Landfill is subject to the NSPS for air emissions from municipal solid waste landfills (40 CFR Part 60 subpart WWW). As long as the facility complies with the requirements of regulation 8 Rule 34, the landfill will be in compliance with all applicable requirements of the NSPS (40 CFR, Part 60, Subpart WWW). The significant point that should be noted is that the NSPS requirements for the wellheads mirror the requirements previously enumerated for Regulation 8-34-305. The NSPS also allows for the establishment of an alternative wellhead standard as long as the higher wellhead operating temperature has been demonstrated to not cause fires or to significantly inhibit anaerobic decomposition by killing methanogens. NISL will continue to monitor the wellhead landfill gas composition to ensure that the anaerobic decomposition is within normal tolerances and that fires are not occurring.

NESHAP Requirements: Any landfills that are subject to the landfill gas collection and control requirements of either the NSPS for MSW Landfill or the EG for MSW Landfills are also subject to the NESHAPs for MSW Landfills (see 40 CFR Part 63, Subpart AAAA). The NESHAP requires that facilities subject to the requirement prepare and implement startup, shutdown and malfunction plans (SSM Plans) as well as additional reporting requirements. All applicable NESHAP requirements are included in the existing MFR permit. Newby Island Sanitary Landfill is expected to continue to comply with these requirements.

J. CEQA

This permit application is for a change of conditions that does not have any impact on emissions. For this reason the application is categorically exempt from CEQA pursuant to Regulation 2-1-312.1 and 2-1-312.2. No further CEQA review is required.

4. CONDITIONS

Condition 10423, Part 6 will be revised as follows.

6. The S-2 Newby Island Sanitary Landfill shall be equipped with a landfill gas collection system which shall be operated continuously as defined in Regulation 8-34-219. Wells, collectors, and adjustment valves shall not be disconnected, removed, or completely closed, without prior written authorization from the District, unless the Permit Holder complies with all applicable provisions of Regulation 8, Rule 34, Sections 113, 116, 117, and 118.
 - a. The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below as of December 15, 2005. Well and collector locations, depths, and lengths are as described in Permit Applications #2405, #2563, and #8121. The Permit Holder shall apply for and receive an Authority to Construct before modifying the landfill gas collection system described below. Increasing or decreasing the number of vertical wells or horizontal collectors are considered modifications that are subject to the Authority to Construct requirement. Adding or modifying risers, laterals, or header pipes are not subject to this Authority to Construct requirement. The authorized number of landfill gas collection system components is the baseline count listed below plus any components added and minus any components decommissioned pursuant to Part 6b as evidenced by startup/shutdown notification letters submitted to the District.
 - 179 vertical wells
 - b. The Permit Holder has been issued an Authority to Construct for the additional landfill gas collection system components listed below as of December 15, 2005. Well and collector locations, depths, and lengths are described in Permit Application #13071.
 - Install up to 40 vertical wells.
 - Decommission up to 11 vertical wells.
 - Install header valves, risers, and connections between existing horizontal collectors, as needed, to optimize gas collection and maintain compliance with Regulation 8 Rule 34.
 - Modify well head monitoring locations, as needed, provided that each landfill gas collection system component identified in Part 6a and each new collection system component installed per Part 6b is adequately represented by a wellhead monitoring location. The Permit Holder shall maintain documentation on site that identifies all landfill gas collection system components that are represented by each wellhead monitoring location.

(Basis: Regulations 8-34-301.1, 303, 304, 305)

- c. Each landfill gas collection system component listed in Part 6a and 6b shall be operated in compliance with the wellhead limits of Regulation 8-34-305, unless an alternative wellhead limit

has been approved for that component, as identified in subpart c(i), below, and the Permit Holder complies with all of the additional requirements for that component, as identified in subparts c(ii - vii).

- (i) The nitrogen and oxygen concentration limits in Regulation 8-34-305.3 and 305.4 shall not apply to the 22 landfill gas collection system wells listed below, provided that the oxygen concentration in each of the following wells does not exceed 15% by volume: EW-30R, EW-09, EW-13, 24, 54, 68, 71, 72, 101, 103, 13R, 20R, 213, 224, 235R, 237, 253, HC-201, HC-203, HC-204, HC-208, MW-12.
 - (ii) The Permit Holder shall demonstrate compliance with the alternative wellhead oxygen limit noted in subpart c(i) by monitoring each wellhead for oxygen on a monthly basis, in accordance with the provisions of Regulations 8-34-505 and 604.
 - (iii) All test dates, wellhead oxygen concentration data, any deviations from the subpart c(i) oxygen concentration limit, repair actions, repair dates, re-monitoring dates and results, and compliance restoration dates shall be recorded in a District-approved log and made available to District staff upon request in accordance with Regulations 8-34-501.4, 501.9, and 414.
 - (iv) To demonstrate that the alternative wellhead oxygen limit in subpart c(i) will not cause landfill gas emissions at the surface, the Permit Holder shall conduct additional surface emission monitoring in the vicinity of each component listed in subpart c(i). For each component listed in subpart c(i), the Permit Holder shall maintain a map showing the location of the buried collection system component and identifying the respective radius of influence. For each component in subpart c(i), the Permit Holder shall monitor for landfill surface emissions in accordance with Regulations 8-34-506 and 607 at three representative points on the landfill surface that are within the radius of influence of the component and that are not more than 15 meters from the surface location of the component. This additional surface emission monitoring shall be conducted on a monthly basis for a period of at least six consecutive months.
 - (v) If no excesses of the Regulation 8-34-303 surface emission limit are detected in the vicinity of a component during a six consecutive month period, the Permit Holder may discontinue the additional monthly surface emission monitoring requirements in the vicinity of that component.
 - (vi) If one or more excesses of the Regulation 3-34-303 surface emission limit are detected in the vicinity of a component during a six consecutive month period, the Permit Holder shall follow all applicable requirements for recording and reporting the excess and shall follow the Regulation 8-34-415 repair schedule for landfill surface leak excesses. The additional monthly surface emission monitoring in the vicinity of the respective component shall continue until either the requirements of subpart c(v), above, have been achieved or the repair and compliance restoration requirements of subpart c(vii) has been satisfied.
 - (vii) If excesses of the Regulation 8-34-303 surface emission limit are detected in the vicinity of a component for three or more monitoring events during a six consecutive month period, the subpart c(i) alternative wellhead oxygen limit shall be revoked for the respective component. The Permit Holder shall conduct all necessary repairs to the landfill gas collection wells, to any piping associated with the well or remote wellhead monitoring system, to valves, flanges, or other connectors, and to any test ports or other openings that are necessary to eliminate air intrusion into the well or the monitoring point to prevent impairment of vacuum application or vacuum adjustment at the collection well, and to restore the collection well and associated monitoring point to proper function. The Permit Holder shall complete all of the above repairs as necessary to restore compliance with Regulation 8-34-303 surface emission limit (in the vicinity of the respective component) and the Regulation 8-34-305.4 wellhead oxygen concentration limit by the earlier of the following dates: (a) within 120 days of the date that the first excess was discovered in the three excess events are discovered within a single quarterly period pursuant to the re-monitoring requirements of 8-34-415 or (b) within 60 days of detection of the third excess.
- d. Each landfill gas collection system component listed in Part 6a and 6b shall be operated in compliance with the wellhead limits of Regulation 8-34-305, unless an alternative wellhead limit has been approved for that component, as identified in subpart d(i), below, and the Permit Holder

complies with all of the additional requirements for that component, as identified in subparts d(ii - v)

(i) The landfill gas temperature limits in Regulation 8-34-305.2 shall not apply to the 31 landfill gas collection system wells listed below, provided that the landfill gas temperature in each of the following wells does not exceed 145 degrees F (63 C): EW-10R, EW-11R, EW-39R, EW-40R, EW-14, EW-15, EW-24, EW-31R, EW-33, EW-35, 4, 5, A, B, D, E, 11, 14, 16, 19, 22, 25, 30, 3R, 9R, 106, 218, 241, 243, 31R, 51R.

(ii) The Permit Holder shall demonstrate compliance with the alternative wellhead landfill gas temperature standard in subpart d(i) by monitoring the temperature of each wellhead on a monthly basis, in accordance with Regulation 8-34-505.

(iii) All test dates, wellhead landfill gas temperatures, any deviation with the subpart d(1) limit, repair actions, repair dates, re-monitoring dates and results, and compliance restoration dates 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.

(iv) To demonstrate that the alternative temperature standard in subpart d(i) does not cause subsurface fires, the Permit Holder shall conduct landfill gas testing for CO, on a monthly basis, on at least three (randomly selected) landfill gas collection wells listed in d(i) above. Monthly CO testing of the wells listed in subpart d(i) shall continue to be random, except that wells previously tested, which show no visible signs of subsurface fires (soil surface cracking, sudden unexplained soil subsidence, etc), shall not be retested until all of the wells in subpart d(i) have been tested.

To develop a comparative database of normal landfill gas CO levels, the Permit Holder shall randomly select at least three landfill gas extraction wells (other than the wells listed in subpart d(i) to be sampled concurrently with the wells selected from the list in d(i). Sampling of the non d(i) list wells may be discontinued when 12 months of data has been gathered.

(v) If CO levels at any of the tested components (listed in subpart d(i)) are found to exceed 20% of the averaged "normal" CO level, the Permit Holder shall take all measures necessary to investigate to determine the presence/non-presence of subsurface fires. If a fire is suspected the Permit Holder shall employ all means as appropriate to extinguish the fire, repair the well and bring the well back into service according to the protocol listed in Regulation 8-34-414.

(Basis: Regulations 8-34-303, 304, 305, 40 CFR 60.755(a) and 60.759)

5. RECOMMENDATIONS

Issue a change of permit condition # 10423 for the following source:

S-2 Newby Island Sanitary Landfill with Gas Collection System

by:

Randy E. Frazier, P.E.
11 May 2006

Permit Evaluation and Statement of Basis for Application 18703: Site #A9013, BFI – The Recyclery and International Disposal Corporation of CA, 1601 Dixon Landing Road, Milpitas, CA 95035

APPENDIX E

ENGINEERING EVALUATION FOR APPLICATION # 18443

ENGINEERING EVALUATION REPORT FOR APPLICATION 18443

PLANT NAME	International Disposal Corporation of California
PLANT NUMBER	A9013
APPLICATION NUMBER	18443
PLANT/SITE ADDRESS	1601 Dixon Landing Road
DATE	9 September 2008
ENGINEER	R.E. Frazier
PAGE	1 of 2

1. BACKGROUND

The International Disposal Corporation of California, Inc (IDC, plant 9013) has applied for a change of condition to operate their existing landfill according to the following project description.

S-2 Newby Island Sanitary Landfill with Gas Collection System

Newby Island was granted authorization to make landfill gas collection system modifications in applications 2405, 2563, 8121 and 13071. As of September 8, 2008 the current well count is as follows:

- Vertical Wells 179
- Horizontal Collectors 8

NIL has requested approval to install up to 70 additional vertical wells, 8 new horizontal collectors, and to replace up to 20 vertical wells (for optimization). The requested condition modifications are also to decommission up to 25 existing vertical wells, and up to 8 existing horizontal collectors.

Condition # 10423 will be modified to accommodate the requested changes, with no expiration date, as in permits of this type from the past.

2. EMISSIONS DISCUSSION

The collected landfill gas from this facility is processed preferentially at the seven landfill gas fired engine generators located at the Gas Recovery Systems-Dixon Landing Road (GRS) facility (plt #11670, unrelated to the IDC facility), at the landfill gas combustion sources at San Jose/Santa Clara Wastewater Treatment Plant, and lastly at the on-site landfill gas flare A-2. All emissions from the flare and the IC engines at GRS and at SJ/SC WWTP have already been accounted for in previous permit applications, and therefore there are no emissions increase associated with this application.

3. STATEMENT OF COMPLIANCE

There are no new District of Federal regulations triggered by the proposed landfill gas collection system modification. However, changing the number of gas collection wells at the landfill requires that the permit condition #10423 be changed to reflect the correct configuration of the landfill, and the Title V Permit modified accordingly. This permit will address the permit change while the Title V modification will be handled in Minor Revision application #18444.

4. MODIFIED PERMIT CONDITIONS

It is recommended that part 6 of Condition #10423 be changed to 1) account for the current and potential future extraction wells and associated systems, 2) to modify the language of the Part to make the wording consistent with current landfill permits.

6. The landfill gas collection system described in subpart a below shall be operated continuously as defined in Regulation 8-34-219. Wells, collectors, and adjustment valves shall not be shut off, disconnected, or removed from operation without written authorization from the District, unless the Permit Holder complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118. The Permit Holder shall apply for and receive a Change of Conditions from the District before altering the landfill gas collection system described in subpart a below. Increasing or decreasing the number of wells or collectors, or significantly changing the length of collectors or the locations of wells or collectors are alterations subject to this requirement. Adding or modifying risers, laterals, or header pipes are not subject to this requirement. The authorized number of landfill gas collection system components is the baseline count listed below plus any components added and minus any components decommissioned pursuant to Part 6b as evidenced by start-up/shut-down notification letters submitted to the District. (Basis: Regulations 2-1-301, 8-34-301.1, 8-34-304, 8-34-305, and 2-6-413)

a. The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below, which includes all start-up/shut-down notifications submitted through December 2005. Well and collector locations, depths, and lengths are as described in detail in Permit Applications 2405, 2563, 8121, and 13071.

- Total Number of Vertical Wells	179
- Total Number of Horizontal Collectors	8

b. The Permit Holder is authorized to make the landfill gas collection system component alterations listed below, and lengths of associate piping are as described in detail in Permit Application 18443.

	Minimum	Maximum
Install New Vertical Wells	0	<u>70</u>
Decommission Vertical Wells	0	<u>25</u>
Install New Horizontal Collectors	0	<u>8</u>
Decommission Horizontal Collectors	0	<u>8</u>
Replace Vertical Wells*	0	<u>20</u>

*one-for-one well replacement at new optimal locations

Wells installed or shutdown pursuant to subpart b shall be added to or removed from subpart a in accordance with the procedures identified in Regulation 2-6-414 or 2-6-415. The Permit Holder shall maintain records of the decommissioning date for each well that is shut down and the initial operation date for each new well.

5. RECOMMENDATIONS

Recommend that the modification of Condition 10423 be approved for source S-2 at Newby Island Landfill (plant A9013).

Randy E. Frazier, P.E.
Senior Air Quality Engineer
9 September 2008

Permit Evaluation and Statement of Basis for Application 18703: Site #A9013, BFI – The Recyclery and International Disposal Corporation of CA, 1601 Dixon Landing Road, Milpitas, CA 95035

APPENDIX F

ENGINEERING EVALUATION FOR APPLICATION # 23393

Engineering Evaluation

**BFI The Recyclery and International Disposal Corporation of California
(Newby Island Landfill)
Plant No. 9013
Application No. 23393**

**Equipment Location: 1601 W. Dixon Landing Road
Milpitas, CA 95025**

BFI The Recyclery and International Disposal Corporation of California has applied for an accelerated Authority to Construct for changes to the permit conditions for their existing landfill gas (LFG) collection and control system. The modification of the Gas Collection and Control System are for source

S-2 Newby Island Landfill with Gas Collection System

Background for S-2 Landfill

The proposed modifications consist of replacing, adding, and decommissioning LFG vertical landfill gas (LFG) extraction wells and horizontal collectors in existing and new areas of the landfill. The Newby Island Landfill needs additional capacity to install, decommission, and replace wells. The modifications proposed in this application are intended to ensure that the LFG extraction wells are appropriate in number, density, and location to meet regulatory standards. According to the definition stated in 40 CFR Subparts WWW and Cc 60.751, “sufficient density” means “any number, spacing, and combination of collection system components necessary to maintain emission and migration control as determined by measures of performance set forth in this part.”

Newby Island was previously granted authorization to make landfill gas collection system modifications in Applications 2405, 2563, 8121, 13071 and 18443. The most recent permit for modification of the GCCS (ATC Number 18443) had a count of 177 vertical wells and 7 horizontal collectors. The permit conditions authorized the decommissioning of 19 vertical wells, installation of 66 new vertical wells, the decommissioning of 6 horizontal trench collectors/horizontal wells, and the installation of 7 horizontal collectors to the GCCS. Therefore, the landfill gas collection system currently is permitted for a total of up to 243 Vertical wells and 14 Horizontal Collectors.

A field investigation with Republic Services’ Operations and American Environmental Group (AEGL) in May 2011, showed a total of 233 vertical wells and 11 horizontal collectors actively collecting landfill gas.

The following shows the fully reconciled wellfield component counts as of May 2011:

Vertical Wells	233
Horizontal	11
New Vertical Wells	10
New Horizontal Collectors	3
Replacement Vertical Wells	20
Decommissioned Vertical Wells	19
Decommissioned Horizontal Collectors	6

This well count is to be used as the baseline count from this date going forward. Any future well installations and/or decommissioning should be inventoried on the basis of the above wellfield counts.

With this application, Newby Island Landfill is requesting to install up to 100 new vertical wells and 20 horizontal collectors, and to decommission up to 150 vertical wells and 15 horizontal collectors, with unlimited replacement of vertical wells. This request is intended to allow the GCCS to be modified as necessary to ensure proper operation.

Total Number of existing Vertical Wells:	233
Total Number of allowed new Vertical Wells	100
Total Number of allowed Decommissioned Vertical Wells	-150
Total Maximum Number of Vertical Wells	333
Total Number of existing Horizontal Collectors:	11
Total Number of allowed new Horizontal Collectors	20
Total Number of allowed Decommissioned Horizontal Collectors	15
Total Maximum Number of Horizontal Collectors	31

Permit Condition # 10423 will be modified to accommodate the requested changes, with no expiration date, consistent with past modifications of this type.

The total throughput of the modified GCCS will not increase above the current control device capacities, no additional emissions from the control devices are anticipated due to these modifications.

Emissions Discussion

S-2 Landfill

Newby Island Sanitary Landfill is an active municipal solid waste disposal site. The capacity of the A-1 Flare is 2,006 MMBTU per Day, and the capacity of the A-2 Flare is 1,800 MMBTU/Day. Newby Island Landfill estimates the LFG flow from each new well to be approximately 25 scfm. The collected landfill gas from this facility is processed preferentially at the seven landfill gas fired engine generators located at the Gas Recovery Systems – Dixon Landing Road (GRS) facility (Plant # 11670, unrelated to the IDC facility). The next priority is at the landfill gas combustion sources at San Jose/Santa Clara Wastewater Treatment Plant, and lastly at the on-site landfill gas flare A-2. All emissions from the flare and the IC engines at GRS and at SJ/SC WWTP have already been accounted for in previous permit applications; and therefore, there are no emissions increase associated with this application.

Statement of Compliance

There are no new District or Federal regulations triggered by the proposed landfill gas collection system modification. However, changing the number of gas collection wells at the landfill requires that Permit Condition #10423 be changed to reflect the correct configuration of the Gas Collection

System, and the Title V Permit will be modified accordingly. This permit will address the permit condition changes, and the Title V modification will be processed with the Title V Revision in Application #18703.

CEQA

The increase in landfill extraction wells is categorically exempt under the District's CEQA Regulation 2-1-312.1 and 312.2, because the Gas Collection and Control System is part of the abatement system. There is no adverse environmental impact due to the increased collection of landfill gas for abatement, nor the proposed changes in conditions.

Modified Permit Conditions

Recommend approval for Source S-2 Newby Island Sanitary Landfill, Part 6 of Condition #10423 to be changed to account for the current and potential future LFG extraction wells and associated systems.

6. The landfill gas collection system described below shall be operated continuously as defined in Regulation 8-34-219. Wells, collectors, and adjustment valves shall not be shut off, disconnected, or removed from operation without written authorization from the District, unless the Permit Holder complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118. The Permit Holder shall apply for and receive a Change of Conditions from the District before altering the landfill gas collection system beyond the configurations described in subpart a and subpart b below. Increasing or decreasing the number of wells or collectors, or significantly changing the length of collectors or the locations of wells or collectors are alterations that are subject to this requirement. Adding or modifying risers, laterals, or header pipes are not subject to this requirement. The authorized number of landfill gas collection system components is the baseline count listed below plus any components added and minus any components decommissioned pursuant to Part 6b as evidenced by start-up/shut-down notification letters submitted to the District.
(basis: Regulations 2-1-301, 8-34-301.1, 8-34-304, 8-34-305, and 2-6-413)
 - a. The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below, which includes all start-up/shut-down notifications submitted through May 2011.

Well and collector locations, depths, and lengths are as described in detail in Permit Applications 2405, 2563, 8121, 3071, and 18443.

- 233 vertical wells
- 11 horizontal collectors

[Well and collector count updated 10-25-2011]

b. The Permit Holder is authorized to make the landfill gas collection system component alterations listed below, and lengths of associated piping are as described in Application 18443.

- New vertical wells 100
- New horizontal collectors 20
- Decommission vertical wells 150
- Decommission horizontal collectors 15

- Replacement of vertical wells unlimited, provided the requirements of 8-34-117 and 118 are met.

[Authorized component alteration count updated 10-25-2011]

Wells installed or shut-down pursuant to Subpart b shall be added to or removed from Subpart a in accordance with the procedures identified in Regulation 2-6-414 or 2-6-415. The Permit Holder shall maintain records of the decommissioning date for each well that is shut-down and the initial operation date for each new well. (basis: Regulations 8-34-301.1, 8-34-303, 8-34-304, 8-34-305)

Recommendations

BFI The Recyclery and International Disposal Corporation of California (BAAQMD Plant #A9013).

Recommend that the modification of Condition #10423 be approved for Source S-2 Newby Island Sanitary Landfill.

Judith Cutino, PE

Date November 14, 2011

Senior Air Quality Engineer

Permit Conditions

P# 9013 Newby Island Sanitary Landfill

COND# 10423 -----

For: S-2, NEWBY ISLAND SANITARY LANDFILL - Waste Decomposition Process; ABATED BY A-1 & A-2, LANDFILL GAS FLARES; and
S-5, NEWBY ISLAND SANITARY LANDFILL - Waste and Cover Material Dumping; and
S-6, NEWBY ISLAND SANITARY LANDFILL - Excavating, Bulldozing, and Compacting Activities

1. The Permit Holder shall comply with the following waste acceptance and disposal limits and shall obtain the appropriate New Source Review permit, if one of the following limits is exceeded:
 - a. Total waste accepted and placed at the landfill shall not exceed 4,000 tons in any day.
(Basis: Regulation 2-1-301)
 - b. The total cumulative amount of all waste placed in the landfill is predicted to be 39.0 million tons. However, an exceedance of this amount is not a violation of the permit and does not trigger the requirement to obtain a New Source review permit, if the operator can, within 30 days of the date of discovery of the exceedance, provide documentation to the District demonstrating that the tonnage capacity should be higher. (Basis: Regulation 2-1-301)
 - c. The maximum design capacity of the landfill (total volume of all wastes and cover materials placed in the landfill, excluding final cover) shall not exceed 50.8 million cubic yards.
(Basis: Regulation 2-1-301)
- *2. Handling Procedures for Soil Containing Volatile Organic Compounds

- a. The procedures listed below in subparts b-1 do not apply if the following criteria are satisfied. However, the record keeping requirements in subpart m, below, are applicable.
 - i. The Permit Holder has appropriate documentation demonstrating that either the organic content of the soil or the organic concentration above the soil is below the "contaminated" level (as defined in Regulation 8, Rule 40, Sections 205, 207, and 211). The handling of soil containing VOCs in concentrations below the "contaminated" level is subject to Part 3 below.
 - ii. The Permit Holder has no documentation to prove that soil is not contaminated, but source of the soil is known and there is no reason to suspect that the soil might contain organic compounds.
- b. The Permit Holder shall provide verbal notification to the Compliance and Enforcement Division of the Permit Holder's intention to accept contaminated soil at the facility at least 24 hours in advance of receiving the contaminated soil. The Permit Holder shall provide an estimate of the amount of contaminated soil to be received, the degree of contamination (range and average VOC Content), and the type or source of contamination.
- c. Any soil received at the facility that is known or suspected to contain volatile organic compounds (VOCs) shall be handled as if the soil were contaminated, unless the Permit Holder receives test results proving that the soil is not contaminated. To prove that the soil is not contaminated, the Permit Holder shall collect soil samples in accordance with Regulation 8-40-601 within 24 hours of receipt of the soil by the facility. The organic content of the collected soil samples shall be determined in accordance with Regulation 8-40-602.
 - i. If these test results indicate that

the soil is still contaminated or if the soil was not sampled within 24 hours of receipt by the facility, the Permit Holder must continue to handle the soil in accordance with the procedures set forth in subparts e.1., below, until the soil has completed treatment or has been placed in a final disposal location and adequately covered. Storing soil in a temporary stockpile or pit is not considered treatment. Co-mingling, blending, or mixing of soil lots is not considered treatment.

- ii. If these test results indicate that the soil - as received at the facility has an organic content of 50 ppmw or less, then the soil is no longer contaminated and shall be handled in accordance with the procedures in Part 3 instead of Part 2, subparts e.-1.
- d. Any contaminated soil received at the facility shall be clearly identified as contaminated soil, shall be handled in accordance with subparts e.-1. below, and shall be segregated from non-contaminated soil. Contaminated soil lots may not be co-mingled, blended, or otherwise mixed with non-contaminated soil lots prior to treatment, reuse, or disposal. Mixing soil lots in an attempt to reduce the overall concentration of the contaminated soil or to circumvent any requirements or limits is strictly prohibited.
- e. On-site handling of contaminated soil shall be limited to no more than 2 on-site transfers per soil lot. For instance, unloading soil from off-site transport vehicles into a temporary storage pile is 1 transfer. Moving soil from a temporary storage to a staging area is 1 transfer. Moving soil from a temporary storage pile to a final disposal site is 1 transfer. Moving soil from a staging area to a final disposal site is 1 transfer. Therefore, unloading soil from off-site transport into a temporary storage pile and then moving the soil from that temporary storage pile to the final disposal site is allowed.

Unloading soil from off-site transport into a staging area and then moving the soil from that staging area to the final disposal site is allowed. However, unloading soil from off-site transport to a temporary storage pile, moving this soil to a staging area, and then moving the soil again to a final disposal site is 3 on-site transfers and is not allowed.

- f. If the contaminated soil has an organic content of less than 500 ppmw, the contaminated soil shall be treated, deposited in a final disposal site, or transported off-site for treatment within 90 days of receipt at the facility.
- g. If the contaminated soil has an organic content 500 ppmw or more, the contaminated soil shall be treated, deposited in a final disposal site, or transported off-site for treatment within 45 days of receipt at the facility.
- h. All active storage piles shall meet the requirements of Regulation 8-40-304 by using water sprays, vapor suppressants or approved coverings to minimize emissions. The exposed surface area of any active storage pile (including the active face at a landfill) shall be limited to 6000 ft². The types of storage piles that may become subject to these provisions include (but are not limited to) truck unloading areas, staging areas, temporary stockpiles, soil on conveyors, bulldozers or trucks, the active face of a landfill, or other permanent storage pile at the final disposal location.
- i. All inactive storage piles shall meet the requirements of Regulation 8-40-305 including the requirement to cover contaminated soil during periods of inactivity longer than one hour. The types of storage piles that may become subject to these provisions include (but are not limited to) soil on trucks or other on-site equipment, staging areas, temporary stockpiles, and the permanent storage pile at the final disposal location. District approved coverings for inactive storage piles include continuous heavy-duty plastic sheeting

(in good condition, joined at the seams, and securely anchored) or encapsulating vapor suppressants (with re-treatment as necessary to prevent emissions).

- j. The Permit Holder must:
 - i. Keep contaminated soil covered with continuous heavy-duty plastic sheeting (in good condition, joined at the seams, and securely anchored) whenever soil is to be stored in temporary stockpiles or during on-site transport in trucks. Soil in trucks shall not be left uncovered for more than 1 hour.
 - ii. Establish a tipping area for contaminated soils near the active face that is isolated from the tipping area for other wastes.
 - iii. Spray contaminated soil with water or vapor suppressant immediately after dumping the soil from a truck at the tipping area.
 - iv. Ensure that all contaminated soil is transferred from the tipping area to the active face immediately after spraying with water or vapor suppressant.
 - v. Ensure that contaminated soil in the tipping area is not disturbed by subsequent trucks. Trucks shall not drive over contaminated soil in the tipping area or track contaminated soil out of the tipping area on their wheels.
 - vi. Spray contaminated soil on the active face with water or vapor suppressant (to keep the soil visibly moist) until the soil can be covered with an approved covering.
 - vii. Limit the area of exposed soil on the active face to no more than 6000 ft².
 - viii. Ensure that contaminated soil spread on the active face is completely covered on all sides with one of the following approved

coverings: at least 6 inches of clean compacted soil, at least 12 inches of compacted garbage, or at least 12 inches of compacted green waste.

- ix. Ensure that covering of soil on the active face is completed within one hour of the time that the soil was first dumped from a truck at the tipping area.
- k. Contaminated soil shall not be used as daily, intermediate, or final cover material for landfill waste operations unless the requirements of Regulation 8, Rule 40, Sections 116 or 117 have been satisfied.
- l. Contaminated soil is considered to be a decomposable solid waste pursuant to Regulation 8, Rule 34. All contaminated soil disposed of at a site shall be included in any calculations of the amount of decomposable waste in place that are necessary for annual reporting requirements or for purposes of 8-34-111 or 8-34-304.
- m. The Permit Holder shall keep the following records for each lot of soil received, in order to demonstrate on-going compliance with the applicable provisions of Regulation 8, Rule 40.
 - i. For all soil received by the facility (including soil with no known contamination), record the arrival date at the facility, the soil lot number, the amount of soil in the lot, the organic content or organic concentration of the lot (if known), the type of contamination (if any), and keep copies of any test data or other information that documents whether the soil is contaminated (as defined in 8-40-205) or not contaminated, with what, and by how much.
 - ii. If the soil is tested for organic content after receipt by the facility, record the sampling date, test results, and the date that these results were received.

- iii. For all on-site handling of contaminated soil, use a checklist or other approved method to demonstrate that appropriate procedures were followed during all on-site handling activities. One checklist shall be completed for each day and for each soil lot (if multiple lots are handled per day).
- iv. For soil aerated in accordance with 8-40-116 or 117 record the soil lot number, the amount of soil in the lot, the organic content, the final placement date, the final placement location, and describe how the soil was handled or used on-site.
- v. For final disposal at a landfill, record on a daily basis the soil lot number, the amount of soil placed in the landfill, the disposal date, and the disposal location.

All records shall be retained for at least 5 years from the date of entry and shall be made available for District inspection upon request. (basis: Regulations 8-40-301, 8-40-304 and 8-40-305)

- 3. The Permit Holder shall limit the quantity of low VOC soil (soil that contains 50 ppmw or less of VOCs) disposed of per day so that no more than 15 pounds of total carbon could be emitted to the atmosphere per day. In order to demonstrate compliance with this condition, the Permit Holder shall maintain the following records in a District approved log.
 - a. Record on a daily basis the amount of low VOC soil disposed of in the landfill or used as cover material in the landfill. This total amount (in units of pounds per day) is Q in the equation in subpart c. below.
 - b. Record on a daily basis the VOC content of all low VOC soils disposed of or used as cover material. This VOC Content (C in the equation below) should be expressed as parts per million by weight as total carbon.
 - c. Calculate and record on a daily basis the

VOC Emission Rate (E) using the following equation:

$$E = Q * C / 106$$

(basis: Regulation 8-2-301)

4. Water and/or dust suppressants shall be applied to all unpaved roadways and active soil removal and fill areas associated with this landfill as necessary to prevent visible particulate emissions. Paved roadways at the facility shall be kept sufficiently clear of dirt and debris as necessary to prevent visible particulate emissions from vehicle traffic or wind. (basis: Regulations 2-1-403, 6-301, and 6-305)
5. All collected landfill gas shall be controlled by one of the following means: (1) the IC engine power generators operated by Gas Recovery Systems (Fortistar Methan Group, BAAQMD Facility # B1670), (2) the IC engine power generators operated by the San Jose/Santa Clara Water Pollution Control Plant (Facility #A778), or the on-site Landfill Gas Flares (A-1 and/or A-2). Raw landfill gas shall not be vented to the atmosphere, except for unavoidable landfill gas emissions that occur during collection system installation, maintenance, or repair, which is performed in compliance with Regulation 8, Rule 34, Sections 113, 116, 117, or 118, and component or surface leaks that do not exceed the limits specified in 8-34-301.2 or 8-34-303. (basis: Regulation 8-34-301)
6. The landfill gas collection system described below shall be operated continuously as defined in Regulation 8-34-219. Wells, collectors, and adjustment valves shall not be shut off, disconnected, or removed from operation without written authorization from the District, unless the Permit Holder complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118. The Permit Holder shall apply for and receive a Change of Conditions from the District before altering the landfill gas collection system beyond the configurations described in Subpart a and Subpart b below. Increasing or decreasing the number of wells or collectors, or significantly changing the length of collectors or the locations of wells or collectors are alterations that are subject to this requirement. Adding or modifying risers, laterals, or header pipes are not subject to this requirement. The authorized number of landfill

gas collection system components is the baseline count listed below plus any components added and minus any components decommissioned pursuant to Part 6b as evidenced by start-up/shut-down Notification letters submitted to the District. (basis: Regulations 2-1-301, 8-34-301.1, 8-34-304, 8-34-305, and 2-6-413)

- a. The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below, which includes all start-up/shut-down notifications submitted through May 2011. Well and collector locations, depths, and lengths are as described in detail in Permit Applications 2405, 2563, 8121, 3071, and 18443.

- 233 vertical wells
- 11 horizontal collectors

[Well and collector count updated 10-25-2011]

- b. The Permit Holder is authorized to make the landfill gas collection system component alterations listed below, and lengths of associated piping are as described in Application 18443.

New vertical wells	100
New horizontal collectors	20
Decommission vertical wells	150
Decommission horizontal collectors	15

Replacement of vertical wells unlimited, provided the requirements of 8-34-117 and 118 are met.

[Authorized component alteration count updated 10-25-2011]

Wells installed or shut-down pursuant to Subpart b shall be added to or removed from Subpart a in accordance with the procedures identified in Regulation 2-6-414 or 2-6-415. The Permit Holder shall maintain records of the decommissioning date for each well that is shut-down and the initial operation date for each new well. (basis: Regulations 8-34-301.1, 8-34-303, 8-34-304, 8-34-305)

- c. Each landfill gas collection system component listed in Part 6a and 6b shall be operated in

compliance with the wellhead limits of Regulation 8-34-305, unless an alternative wellhead limit has been approved for that component, as identified in subpart c(i), below, and the Permit Holder complies with all of the additional requirements for that component, as identified in subparts c(ii - vii)

- (i) The nitrogen and oxygen concentration limits in Regulation 8-34-305.3 and 305.4 shall not apply to the 22 landfill gas collection system wells listed below, provided that the oxygen concentration in each of the following wells does not exceed 15% by volume: EW-30R, EW-09, EW-13, 24, 54, 68, 71, 72, 101, 103, 13R, 20R, 213, 224, 235R, 237, 253, HC-201, HC-203, HC-204, HC-208, MW-12.
- (ii) The Permit Holder shall demonstrate compliance with the alternative wellhead oxygen limit noted in subpart c(i) by monitoring each wellhead for oxygen on a monthly basis, in accordance with the provisions of Regulations 8-34-505 and 604.
- (iii) All test dates, wellhead oxygen concentration data, any deviations from the subpart c(i) oxygen concentration limit, repair actions, repair dates, re-monitoring dates and results, and compliance restoration dates shall be recorded in a District-approved log and made available to District staff upon request in accordance with Regulations 8-34-501.4, 501.9, and 414.
- (iv) To demonstrate that the alternative wellhead oxygen limit in subpart c(i) will not cause landfill gas emissions at the surface, the Permit Holder shall conduct additional surface emission monitoring in the vicinity of each component listed in subpart c(i). For each component listed in subpart c(i), the Permit Holder shall maintain a map showing the location of the buried collection system component and identifying the respective radius of influence. For each component in subpart c(i), the Permit Holder shall monitor for landfill surface emissions in accordance with Regulations 8-34-506 and 607 at three representative points on the landfill surface that are within the radius of influence of the component and that are not more than 15 meters from the surface location of the component. This additional

surface emission monitoring shall be conducted on a monthly basis for a period of at least six consecutive months.

- (v) If no excesses of the Regulation 8-34-303 surface emission limit are detected in the vicinity of a component during a six consecutive month period, the Permit Holder may discontinue the additional monthly surface emission monitoring requirements in the vicinity of that component.
- (vi) If one or more excesses of the Regulation 8-34-303 surface emission limit are detected in the vicinity of a component during a six consecutive month period, the Permit Holder shall follow all applicable requirements for recording and reporting the excess and shall follow the Regulation 8-34-415 repair schedule for landfill surface leak excesses. The additional monthly surface emission monitoring in the vicinity of the respective component shall continue until either the requirements of subpart c(v), above, have been achieved or the repair and compliance restoration requirements of subpart c(vii) have been satisfied.
- (vii) If excesses of the Regulation 8-34-303 surface emission limit are detected in the vicinity of a component for three or more monitoring events during a six consecutive month period, the subpart c(i) alternative wellhead oxygen limit shall be revoked for the respective component. The Permit Holder shall conduct all necessary repairs to the landfill gas collection wells, to any piping associated with the well or remote wellhead monitoring system, to valves, flanges, or other connectors, and to any test ports or other openings that are necessary to eliminate air intrusion into the well or the monitoring point to prevent impairment of vacuum application or vacuum adjustment at the collection well, and to restore the collection well and associated monitoring point to proper function. The Permit Holder shall complete all of the above repairs as necessary to restore compliance with Regulation 8-34-303 surface emission limit (in the vicinity of the respective component) and the Regulation 8-34-305.4 wellhead oxygen concentration limit by the earlier of the following dates: (a) within 120 days of the date that the first excess was discovered in

the three excess events within a single quarterly period pursuant to the re-monitoring requirements of 8-34-415 or (b) within 60 days of detection of the third excess.

- d. Each landfill gas collection system component listed in Part 6a and 6b shall be operated in compliance with the wellhead limits of Regulation 8-34-305, unless an alternative wellhead limit has been approved for that component, as identified in subpart d(i), below, and the Permit Holder complies with all of the additional requirements for that component, as identified in subparts d(ii - v)
- (i) The landfill gas temperature limits in Regulation 8-34-305.2 shall not apply to the 31 landfill gas collection system wells listed below, provided that the landfill gas temperature in each of the following wells does not exceed 145 degrees F (63 C): EW-10R, EW-11R, EW-39R, EW-40R, EW-14, EW-15, EW-24, EW-31R, EW-33, EW-35, 4, 5, A, B, D, E, 11, 14, 16, 19, 22, 25, 30, 3R, 9R, 106, 218, 241, 243, 31R, 51R.
- (ii) The Permit Holder shall demonstrate compliance with the alternative wellhead landfill gas temperature standard in subpart d(i) by monitoring the temperature of each wellhead on a monthly basis, in accordance with Regulation 8-34-505.
- (iii) All test dates, wellhead landfill gas temperatures, any deviation with the subpart d(1) limit, repair actions, repair dates, re-monitoring dates and results, and compliance restoration dates 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.
- (iv) To demonstrate that the alternative temperature standard in subpart d(i) does not cause subsurface fires, the Permit Holder shall conduct landfill gas testing for CO, on a monthly basis, on at least three (randomly selected) landfill gas collection wells listed in d(i) above. Monthly CO testing of the wells listed in subpart d(i) shall continue to be random, except that wells previously tested, which show no visible signs of subsurface fires (soil surface

cracking, sudden unexplained soil subsidence, etc), shall not be retested until all of the wells in subpart d(i) have been tested.

To develop a comparative database of normal landfill gas CO levels, the Permit Holder shall randomly select at least three landfill gas extraction wells (other than the wells listed in subpart d(i) to be sampled concurrently with the wells selected from the list in d(i). Sampling of the non d(i) list wells may be discontinued when 12 months of data has been gathered.

(v) If CO levels at any of the tested components (listed in subpart d(i)) are found to exceed 20% of the averaged "normal" CO level, the Permit Holder shall take all measures necessary to investigate to determine the presence/non-presence of subsurface fires. If a fire is suspected the Permit Holder shall employ all means as appropriate to extinguish the fire, repair the well and bring the well back into service according to the protocol listed in Regulation 8-34-414.

(Basis: Regulations 8-34-303, 304, 305, 40 CFR 60.755(a) and 60.759)

7. The landfill gas collection system described in part 6 shall be operated continuously. Wells shall not be shut off, disconnected, or removed from operation without written authorization from the APCO, unless the Permit Holder complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118. (basis: Regulation 8-34-301.1)
8. The heat input to the landfill gas flares shall not exceed the following limits:
 - a. A-1 Landfill Gas Flare #1: 2,006 million BTU per day nor 732,095 million BTU per year.
 - b. A-2 Landfill Gas Flare #2: 1,800 million BTU per day nor 657,000 million BTU per year.

In order to demonstrate compliance with this part, the Permit Holder shall calculate and record on a monthly basis the maximum daily and total monthly heat input to the flare

based on: (a) the landfill gas flow rate recorded pursuant to part 13. h., (b) the average methane concentration in the landfill gas that was determined during the most recent source test, and (c) a higher heating value for methane of 1013 BTU/ft³ at 60 degrees F.

(basis:
Regulation 2-1-301)

9. Combustion Zone Minimum Temperature limitations:

- a. A-1 Landfill Gas Flare #1: The minimum combustion zone temperature for the A-1 Landfill Gas Flare #1 shall be maintained at a minimum of 1575 degrees F, averaged over any 3-hour period.
- b. A-2 Landfill Gas Flare #2: The minimum combustion zone temperature for the A-2 Landfill Gas Flare #2 shall be maintained at a minimum of 1400 degrees F, averaged over any 3-hour period.

If a source test demonstrates compliance with all applicable requirements at a different temperature, the APCO may revise this minimum temperature limit in accordance with the procedures identified in Regulation 2-6-413 or 2-6-415 based on the following procedures. The minimum combustion zone temperature measured during the most recent complying source test minus 50 degrees F, provided that the minimum combustion zone temperature shall not be less than 1400 degrees F. (basis: Toxic Risk Management Policy and Regulation 8-34-301.3)

10. Emission Limits:

- a. Total reduced sulfur compounds: The total reduced sulfur in the collected landfill gas shall be monitored as a surrogate for monitoring sulfur dioxide in the control system exhaust. The concentration of total reduced sulfur compounds in the collected landfill gas shall not exceed the following limits (dry, calculated as H₂S):
 - 1) 1300 ppmv for any single test.
(basis: Regulation 9-1-302)
 - 2) 300 ppmv, four quarter (annual) integrated average. (basis: Cumulative Increase, Regulation 2-1-

204, 2-2-303)

In order to demonstrate compliance with this part, the Permit Holder shall measure the total sulfur content in the collected landfill gas at a frequency of at least once every calendar quarter using a Draeger Tube or by chromatography (BAAQMD Lab Method 44A) or by any other equivalent method as approved by the APCO. The landfill gas sample shall be taken from the main landfill gas header. The Permit Holder shall follow the manufacturer or BAAQMD recommended procedures for sampling, analysis and interpretation of the results.

- b. Nitrogen Oxides: The concentration of nitrogen oxides (NO_x) in the flue gas from the landfill gas flares A-1 and A-2 shall not exceed 60 ppmv corrected to 15% oxygen, dry basis. This is equivalent to 0.05 pounds of NO_x (calculated as NO₂) per million BTU, based on landfill gas methane content of 50%. (basis: RACT, Cumulative Increase)
11. In order to demonstrate compliance with Regulation 8 Rule 34, Sections 301.3 and 412, the Permit Holder shall ensure that a District approved source test is conducted annually on the Landfill Gas Flares A-1 and A-2. At a minimum, the annual source test shall determine the following:
- a. Landfill gas flow rate to the flare (dry basis);
 - b. Landfill gas concentrations (dry basis): carbon dioxide (CO₂), nitrogen (N₂), oxygen (O₂), total hydrocarbons (THC), methane (CH₄), and total non-methane organic compounds (NMOC);
 - c. Stack gas flow rate from the flare (dry basis);
 - d. Flare stack gas concentrations (dry basis): NO_x (as NO₂), CO, THC, CH₄, NMOC, Benzene, Formaldehyde, Vinyl Chloride, and O₂;
 - e. THC, CH₄, and NMOC destruction efficiencies achieved by the flare; and

- f. Average combustion temperature in the flare during the test period.

Source tests shall be conducted no sooner than 9 months and no later than 12 months after the previous source test. The Source Test Section of the District shall be contacted to obtain approval of the source test procedures at least 14 days in advance of each source test. The Source Test Section shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Compliance and Enforcement Division within 45 days of the test date. (basis: Regulations 8-34-301.3 and 8-34-412)

12. The Permit Holder shall conduct a characterization of the landfill gas concurrent with the annual source test required by part 11 above. The landfill gas sample shall be drawn from the main landfill gas header. In addition to the compounds listed in part 11b, the landfill gas shall be analyzed for the following compounds:

Acrylonitrile	Ethylene dibromide
Benzene	
Fluorotrichloromethane	
Carbon disulfide	Hexane
Carbon tetrachloride	Hydrogen sulfide
Chlorobenzene	Isopropyl alcohol
Chlorodifluoromethane	Methylethylketone
Chloroethane	Methylene chloride
Chloroform	Perchloroethylene
1,1 Dichloroethane	Toluene
1,1 Dichloroethene	1,1,1 Trichloroethane
1,2 Dichloroethane	1,1,2,2
Tetrachloroethane	
1,4 Dichlorobenzene	Trichloroethylene
Dichlorodifluoromethane	Vinyl chloride
Dichlorofluoromethane	Xylenes
Ethylbenzene	

All concentrations shall be reported on a dry basis. The test report shall be submitted to the Compliance and Enforcement Division within 45 days of the test date. (basis: Toxic Risk Management Policy and Regulation 8-34-412)

13. In order to demonstrate compliance with the above conditions, the Permit Holder shall maintain the following records in an APCO approved logbook.

- a. Record the total amount of municipal solid waste received at S-2 on a daily basis. Summarize the daily waste acceptance records for each calendar month.
- b. For each area or cell that is not controlled by a landfill gas collection system, maintain a record of the date that waste was initially placed in the area or cell. Record the cumulative amount of waste placed in each uncontrolled area or cell on a monthly basis.
- c. If the Permit Holder plans to exclude an uncontrolled area or cell from the collection system requirement, the Permit Holder shall also record the types and amounts of all non-decomposable waste placed in the area and the percentage (if any) of decomposable waste placed in the area.
- d. Maintain daily records of low VOC soil acceptance rate and emissions, pursuant to part 3.
- e. Record of the dates, locations, and frequency per day of all watering activities on unpaved roads or active soil or fill areas. Record the dates, locations, and type of any dust suppressant applications. Record the dates and description of all paved roadway cleaning activities. All records shall be summarized on a monthly basis.
- f. Record the initial operation date for each new landfill gas well and collector.
- g. Maintain an accurate map of the landfill that indicates the locations of all refuse boundaries and the locations of all wells and collectors (using unique identifiers) that are required to be operating continuously pursuant to part 6. Any areas containing only non-decomposable waste shall be clearly identified. This map shall be updated at least once a year to indicate changes in refuse boundaries and to include any newly installed wells and collectors.
- h. Record the operating times and the

landfill gas flow rate to the A-1 and A-2 Landfill Gas Flares on a daily basis and summarize these records on a monthly basis. Calculate and record the heat input to A-1 and A-2, pursuant to part 8.

- i. Maintain continuous records of the combustion zone temperatures for the A-1 and A-2 Landfill Gas Flares during all hours of operation.
- j. Maintain records of all test dates and test results performed to maintain compliance with parts 10, 11, and 12 above or to maintain compliance with any applicable rule or regulation.

All records shall be maintained on site or shall be made readily available to District staff upon request for a period of at least 5 years from the date of entry. These record keeping requirements do not replace the record keeping requirements contained in any applicable rules or regulations. (basis: Cumulative Increase, 2-1-301, 2-6-501, 6-301, 6-305, 8-2-301, 8-34-301, 8-34-304, and 8-34-501)

14. The annual report required by BAAQMD Regulation 8-34-411 shall be submitted in two semi-annual increments. The reporting period for the first increment of the Regulation 8-34-411 semi-annual report that is submitted subsequent to the issuance of the MFR Permit for this site shall be from December 1, 2003 through June 30, 2004. This first increment report shall be submitted by July 31, 2004. The reporting periods and report submittal due dates for all subsequent increments of the Regulation 8-34-411 report shall be synchronized with the reporting periods and report submittal due dates for the semi-annual MFR Permit monitoring reports that are required by Section I.F. of the MFR Permit for this site. At the discretion of the facility, the Regulation 8-34-411 report may be combined with the semi-annual MFR monitoring report as a single report as long as it is clearly labeled as such and it contains all the required elements of both reports. (basis: Regulation 8-34-411 and 40 CFR Part 63.1980(a))

Permit Evaluation and Statement of Basis for Application 18703: Site #A9013, BFI – The Recyclery and International Disposal Corporation of CA, 1601 Dixon Landing Road, Milpitas, CA 95035