Bay Area Air Quality Management District

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

Permit Evaluation
and
Statement of Basis
for
MAJOR FACILITY REVIEW PERMIT
Minor Revision

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

March 2006

Application 10688

Application Engineer: Randy Frazier
Site Engineer: Randy Frazier

TABLE OF CONTENTS

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 major facility as defined by BAAQMD Regulation 2-6-212. It is a major facility because it has the "potential to emit," as defined by BAAQMD Regulation 2-6-218, more than 100 tons per year of a regulated air pollutant.

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

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

The District issued the initial Title V permit to this facility on February 5, 2004.

The purpose of this action is to integrate the condition changes associated with NSR permit applications 8121, 11388 and 13071. Applications 8121 and 13071 which both deal with the issue of routine modifications to the physical layout of the landfill gas extraction well design at the Newby Island Landfill (AKA Newby Island). Application 11388 was to install an additional landfill gas flare, to supplement the existing flare A-1. The above permit applications are included in this Statement of Basis. There are no emissions increases associated with either application 8121 or 13071. The design capacity of the landfill has not changed, therefore the estimated production volume of landfill gas is not projected to increase, either. The changes that were made pursuant to applications 8121 and 13071 address the normal 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.

Application 11388 did involve some changes in the overall facility emissions. The handling of these emission changes is fully addressed in the engineering evaluation of permit application 11388, which is included in Appendix A of this Statement of Basis.

The proposed changes to the permit are shown 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.

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 facility description can be found in the statement of basis that was prepared for the initial Title V Permit issued on February 5, 2004. It is available on request from the Engineering Division of the District.

C. Permit Content

Additional information concerning the legal and factual basis of the Title V permit conditions is presented below. The information is organized by the relevant section of the Title V permit.

I. Standard Conditions

No changes to Section I are proposed.

II. Equipment

The following changes are proposed in this action:

Source S-2 Newby Island Sanitary Landfill with Gas Collection System: Applications 8121 and 13071 addressed necessary and routine landfill gas collection well system modifications. In the initial Title V permit, S-2 consisted of 123 vertical landfill gas wells. Application 8121 permitted the installation of up to 69 additional vertical wells, 11 horizontal collectors and the redrilling of 21 existing wells. In actuality, an additional 56 vertical wells were installed bringing the total number of installed vertical wells to 179. Eleven additional horizontal collectors were installed (these do not need to be noted in the source description), and 21 existing vertical wells were redrilled.

Application 13071 was to install up to an additional 40 vertical landfill gas wells. This additional potential landfill gas collection system capacity will be noted in Table II A.

Flare A-1: A-1 is conditioned to operate at a minimum temperature of either 1400 F or the average temperature recorded during the most recent complying source test minus 50 degrees F. The average temperature during the April 5, 2005 source test was 1575 F. Therefore the minimum temperature parameter will be reset at 1525 F. This is noted in Table II B for flare A-1.

Flare A-2: Flare A-2 is a new flare, permitted by NSR Application 11388. All relevant parameters for A-2 will be included in Table II B.

III. Generally Applicable Requirements

No changes to this section are proposed in this action.

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 crosSreference 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.

<u>Changes to Section IV of the Title V Permit:</u>

The changes to Section IV are to Table IV-A, for S-2 Newby Island Sanitary Landfill and A-1 and A-2 Landfill Gas Flares. Flare A-2 will be added to the Table. The needed modifications to permit condition 10423 will be added to Table IV-A. The condition changes will be discussed in detail in Section VI of this Statement of Basis.

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."

No changes to this section are proposed in this action.

VI. Permit Conditions

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

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.

Changes to Section VI of the Title V Permit:

Applications 8121, 11388, and 13071 required changes to Condition 10423. No other permit conditions were changed. The modified condition will be presented with italicized indented explanations changes, where necessary.

Condition # 10423
For: S-2, NEWBY ISLAND SANITARY LANDFILL WITH GAS COLLECTION SYSTEM; ~~AND~~ ABATED BY A-1 & A-2, LANDFILL GAS FLARES

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-l do not apply if the following criteria are satisfied. However, the recordkeeping 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-l, 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.-l.

d. Any contaminated soil received at the facility shall be clearly identified as contaminated soil, shall be handled in accordance with subparts e-l 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 ft^2. 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 ft^2.
   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) is to 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:

$$E = Q * C / 10^6$$

(basis: Regulation 8-2-301)

4. Water and/or dust suppressants shall be applied to all unpaved roadways, active soil removal, and fill areas 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 (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 Permit Holder shall apply for and receive an Authority to Construct before modifying the landfill gas collection system. Increasing or decreasing the number of wells or collectors, changing the length of collectors, or changing the locations of wells or collectors are all considered to be modifications that are subject to the Authority to Construct requirement.~~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.

The above changes were made to make this part of the landfill gas collection system conditions consistent with other Bay Area landfill conditions. There is no substantive modifications, the changes are only to improve consistency and readability. The new references to Sections 113, 116 and 116 of 8-34 have been included in the condition wording to identify times when normal landfill gas collection and control operations may be temporary suspended.

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 detail in Permit Applications #2405 ~~and~~, #2563, and #8121. The Permit Holder shall apply for and receive an Authority to Construct before modifying the landfill gas system described below. Increasing or decreasing the number of vertical wells or horizontal

collectors are considered modifications that are subject to this 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 start-up/shut-down notification letters submitted to the District.

~~Current~~

~~Total Number of Vertical Wells: 123~~

- 179 Vertical Wells

Prior to permit application 8121, Newby Island had 123 vertical wells. Application 8121 allowed the installation of up to 69 additional vertical wells and 8 horizontal collectors. In spite of the increased numbers of permitted wells, Newby Island installed 56 of the 69 additional vertical wells (bringing to total to 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. ~~Specific well locations, depths, and lengths of associated piping are as described in detail in Permit Application #8121.~~Well and collector locations, depths, and lengths are described in Permit Application #13071. ~~After receiving a written start-up notification for any wells or collectors that have been installed, the APCO will revise the number of wells listed in Parts 6a and 6b using the minor permit amendment procedures identified in Regulation 2-6-414.~~

~~Proposed~~

~~Additional Number of Wells and Collectors:~~

~~(Vertical) 69~~

~~(Horizontal) 8~~

- 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 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 2-1-301, 8-34-301.1, 8-34-303, 8-34-304, 8-34-305)

All of the changes noted in part b) above are from AN 13071. These modifications were needed to maintain the most efficient gas collection and disposal activities at Newby Island. References to AN 8121 will be removed, since that work has been completed, and no longer needs to be mentioned in the future terms.

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 ~~A-1~~ Landfill Gas Flares shall not exceed the following limits: ~~2,006 million BTU per day and shall not exceed 732,095 million BTU per year.~~

   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 not 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 13h, (b) the average methane concentration in the landfill gas that was determined during the most recent source test, (c) and a high heating value for methane of 1013 BTU/ft^3 at 60 degrees F. (basis: Regulation 2-1-301)

   The 2nd landfill gas flare A-2, was permitted in AN 11388. There was no change in the capacity of the A-1 landfill gas flare. The other changes are stylistic to enhance the order and readability of this part of the condition.

9. ~~Effective May 1, 2003, the combustion zone temperature of for A-1 shall be maintained at a minimum of 1549 degrees Fahrenheit, averaged over any 3-hour period.~~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 1525 degrees F, averaged over any 3-hour period.

   The average flare temperature of A-1 during the April 5, 2005 source test was 1575 degrees F. As specified in this part of

condition 10423, the setpoint shall be revised via an administrative amendment based on the average temperature of the most recent source test minus 50 degrees. Hence the new setpoint is: 1575 - 50 = 1525.

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

The temperature of 1400 F has been established (in AN 11388) as the minimum temperature for A-2 landfill gas flare #2 to ensure appropriate destruction of NMOC in the landfill gas. The setpoint temperature of A-2 will be further adjusted in the future based on source test results, as was A-1.

If a source test demonstrates compliance with all applicable requirements at a different temperature, the APCO ~~will~~ may revise this minimum temperature limit in accordance with the ~~administrative permit amendment~~ procedures identified in Regulation 2-6-413 or 2-6-415 based on ~~and~~ the following ~~criteria~~procedures. The minimum combustion zone temperature measured~~for the A-1 Landfill Gas Flare shall be equal to the average combustion zone temperature determined~~ during the most recent complying source test minus 50 degrees F, provided that the minimum combustion zone temperature is not less than 1400 degrees F. (basis: Toxic Risk Management Policy and Regulation 8-34-301.3)

The above changes are to make this permit condition consistent with other landfill gas flare conditions at other Bay Area facilities.

10. Emission Limits

a. Total reduced sulfur compounds: The total reduced sulfur compounds in the collected landfill gas shall be monitored as a surrogate for monitoring sulfur dioxide in the control system's exhaust. The concentration of total reduced sulfur compounds (measured as hydrogen sulfide) in the collected landfill gas shall not exceed the following limits (dry, calculated as H2S):

1) 1300 ppmv ~~(dry)~~for any single test (basis: Regulation 9-1-302)~~.~~

2) 300 ppmv, four quarter (annual) integrated average. Basis: Cumulative Increase, Regulation 2-1-204, 2020303)

The 300 ppm limit was established in AN 11388. Newby Island proposed the 300 ppm annual average limit to maintain the potential to emit for sulfur dioxide below the 100 tpy major facility threshold for SO2. The 1300 ppm limit was the former limit, and

has been retained as an instantaneous limit. All other changes are to improve the style and readability.

In order to demonstrate compliance with this part, the Permit Holder shall measure the total sulfur content ~~(as hydrogen sulfide)~~ in the collected landfill gas at a frequency of at least once ~~a~~ every calendar quarter~~ly basis~~ 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's~~ manufacturer or BAAQMD recommended procedures for ~~using the draeger tube~~sampling, analysis and ~~interpreting~~ interpretion of the results. ~~The Permit Holder shall conduct the first draeger tube test no later than 3 months after the issue date of the MFR Permit and quarterly thereafter. (basis: Regulation 9-1-302)~~

Wording for the test method will be modified to be consistent with other Title V permits dealing with the monitoring of sulfides in combustible waste gases.

b. Nitrogen Oxides: The concentration of nitrogen oxides (NOx) 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 NOx (calculated as NO2) per million BTU, based on landfill gas methane content of 50%. (basis: BACT, Cumulative Increase)

The NOx limit was established for A-2 in application 11388, and represents BACT. The same NOx limit was established for flare A-1 (also in AN 11388), to keep facility wide NOx emissions below the 50 tpy threshold so that offsets for the NOx increases from A-2 could be taken from the District small facilities bankaccount.

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. As a minimum, the annual source test shall determine the following:
    a. ~~landfill~~ Landfill gas flow rate to the flare (dry basis);
    b. Landfill gas concentrations (dry basis) of carbon dioxide (CO_2), nitrogen (N_2), oxygen (O_2), total hydrocarbons (THC), methane (CH_4), and total non-methane organic compounds (NMOC)~~ in the landfill gas~~;
    c. ~~stack~~ Stack gas flow rate from the flare (dry basis);
    d. Flare stack gas concentrations (dry basis): NOx (as NO2), CO, ~~of~~ THC, CH_4, NMOC, Benzene, Formaldehyde, Vinyl Chloride, and O_2 ~~in the flare stack gas~~;
    e. THC, CH4, and NMOC destruction ~~efficiency~~ efficiencies achieved by the flare; and

f. ~~the a~~Average combustion temperature in the flare during the test period.

The first source test shall be conducted no later than October 1, 2002. ~~Each annua~~Subsequent~~l~~ 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 and to the Source Test Section within 45 days of the test date. (basis: Regulations 8-34-301.3 and 8-34-412)

The above changes were made for consistency with other District landfill Title V permits.

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. The total amount of municipal solid waste received at S-2 recorded on a daily basis. A summary of 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, a record of the date that waste was initially placed in the area or cell. The cumulative amount of waste placed in each uncontrolled area or cell recorded 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. ~~Daily~~ Maintain daily records of low VOC soil acceptance rate and emissions, pursuant to part 3.

e. ~~The~~ Record of the dates, locations, and frequency per day of all watering activities on unpaved roads or active soil or fill areas. ~~The~~ Record the dates, locations, and type of any dust suppressant applications. ~~The~~ Record the dates and description of all paved roadway cleaning activities. All records shall be summarized on a monthly basis.

f. ~~The~~ Record the initial operation date for each new landfill gas well and collector.

g. ~~An~~ 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. ~~The~~ Record the operating times and the landfill gas flow rate to the A-1 and A-2 Landfill Gas Flares on a daily basis. Summarize~~A monthly summary of~~ these records on a monthly basis. ~~The~~ Calculate and record the heat input to A-1 and A-2, ~~calculated and recorded~~ pursuant to part 8.

i. ~~Continuous~~ Maintain continuous records of the combustion zone temperature for the A-~~1~~ 1 and A-2 Landfill Gas Flares during all hours of operation.

j. ~~Records~~ 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, Regulations 2-1-301, 2-6-501, 6-301, 6-305, 8-2-301, 8-34-301,
8-34-304, and 8-34-501)

The above changes will be made to improve consistency with other District landfill Title V permits.

14. The annual report required by BAAQMD Regulation 8-34-411 shall be submitted in two semi-annual increments, except that the reporting period for the first increment of the Regulation 8-34-411 report that is submitted subsequent to the issuance of the MFR Permit for this site shall be from December 1, 2003, through July 31, 2004. This first increment report shall be submitted by August 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))

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. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

Changes to Section VII of the Title V Permit:
Changes will be made to Table VII-A to include the new flare A-2 and to accommodate the revised combustion zone temperature setpoint for flare A-1.

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:
BAAQMD Lab Method 44A for the analysis of sulfides will be included in Table VIII. Additionally, to accommodate the new NOx limits of flares A-1 and A-2, a NOx sampling and test procedure will be added to Table VIII.

IX. Permit Shield:

No changes to permit shields are proposed in this revision.

X. Revision History

The revision history will be updated when the minor revision is issued.

XI. Glossary

No changes to the glossary are proposed in this revision.

D. Alternate Operating Scenarios

No alternate operating scenario have been requested for this facility.

APPENDIX A

ENGINEERING EVALUATION REPORT FOR APPLICATION 8121 NEWBY ISLAND LANDFILL

BACKGROUND:

The International Disposal Corporation, P# 9013, has applied for modifications to their permit to operate the Newby Island Landfill as follows:

S-2: **Active Solid Waste Landfill with Gas Collection System – Installation of up to (69) Vertical Landfill Gas (LFG) Extraction Wells, Re-drilling of (21) existing Vertical LFG Extraction Wells, Installation of (8) Horizontal LFG Collectors, and associated piping**

EMISSIONS DISCUSSION:

Collected landfill gas from this facility is either processed on-site in the Landfill Gas Flare A-1 or off-site in IC Engines located at Gas Recovery Systems (P# 11670) or the San Jose/Santa Clara Water Pollution Control Plant (P# 778). Since emissions from the flare and IC engines have already been fully accounted for in previous permit applications, there is no increase of emissions for 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 will require that the Title V permit for the facility be modified. The Title V modification required as a result of the actions taken in this application will be added to the proposed Title V permit.

MODIFIED PERMIT CONDITIONS:

It is recommended that part 6 of Condition #10423 be changed as shown below to reflect the correct number of current and proposed wells at the landfill.

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

a. The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below. Well and collector locations, depths, and lengths are as described in detail in Permit Applications #2405 and #2563.

	Current
Total Number of Vertical Wells:	123

b. The Permit Holder has been issued an Authority to Construct for the additional landfill gas collection system components listed below. Specific well locations, depths, and lengths of associated piping are as described in detail in Permit Application #8121. After receiving a written start-up notification for any wells or collectors that have been installed, the APCO will revise the number of wells listed in Parts 6a and 6b using the minor permit amendment procedures identified in Regulation 2-6-414.

	Proposed
Additional Number of Wells and Collectors:	
(Vertical)	69
(Horizontal)	8

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

RECOMMENDATIONS:

It is recommended that an Authority to Construct be issued to the International Disposal Corporation as follows:

S-2: **Active Solid Waste Landfill with Gas Collection System – Installation of up to (69) Vertical Landfill Gas (LFG) Extraction Wells, Re-drilling of (21) existing Vertical LFG Extraction Wells, Installation of (8) Horizontal LFG Collectors, and associated piping**

By: _____
Ted Hull
Air Quality Engineer II

ENGINEERING EVALUATION REPORT FOR APPLICATION 11388

PLANT NAME	**Newby Island Landfill**
PLANT NUMBER	**A9013**
APPLICATION NUMBER	**11388**
PLANT/SITE ADDRESS	**1601 Dixon Landing Road/Milpitas**
DATE	**10 August 2005**
ENGINEER	**R.E. Frazier**
PAGE	**1 of 19**

1. BACKGROUND

Browning Ferris Industries (BFI) owns and operates the International Disposal Corporation (IDC) of California Newby Island Landfill located at 1601 Dixon Landing Road in Milpitas. IDC primarily accepts household wastes, commercial wastes, agricultural wastes, industrial wastes, as well as construction and demolition wastes. In addition to the solid waste disposal facility, BFI owns and operates a compost facility called BFI – The Recyclery (BFITR), BAAQMD Plant 5472, adjacent to NIL. The IDC and BFITR facilities are permitted as a single Title V plant since both facilities are adjacent and under common control.

The applicant has applied for an Authority to Construct/Permit to Operate for a new flare:

A-2 Landfill Gas Flare #2; Make and Model to be determined; 2,500 scfm maximum, 75 MM Btu/hr

Landfill gas production is predicted to increase through calendar year 2016, when the facility is expected to reach final refuse-in-place capacity. There is no increase in landfill capacity, hence the landfill operation has been permitted to add landfill refuse and to generate landfill gas up to the physical limits of the facility. Assuming flare or combustion capacity exists, and that the landfill gas collection and control system (GCCS) is properly designed and operated, approximately 75% of the landfill gas that is generated will be collected and combusted at the landfill gas flares. Emissions from the flares will be the combustion products NOx, CO, PM and SO2 and any toxic or hazardous air pollutants resulting from combustion of the landfill gas. Emissions of POC from the landfill gas combustion will not be considered per se, since the plant is already permitted to generate and discharge POC emissions proportional to the permitted landfill activity.

IDC submitted a complete permit application prior to December 21, 2004, when the thresholds for offsets changed in Reg 2-2. NIL has proposed to address the offsetting issues in the following manner:

1) NOx Emissions: Although emissions of NOx will increase, IDC has proposed to accept a NOx limit on A-1 LFG Flare #1 in order to keep total NOx emissions below the 50 tpy threshold for small facility bank offsets eligibility. The combined total from the facility will be less than 50 tpy after the additional flare is installed. Therefore offsets for the increase may be taken from the small facilities bank.
2) PM10 and CO Emissions: Emissions of all of these compounds will increase, but will all be below the trigger levels requiring PSD review , modeling or offsets.
3) SOx Emissions: The current limit on total reduced sulfur compounds in LFG is 1300pmv. The applicant has proposed to accept a reduced sulfide concentration limit of 300 in order to maintain the potential to emit for SOx below the major facility threshold of 100 tpy.

It needs to be emphasized that this application is not for any type of expansion of the landfill operation beyond what they are already allowed to do. This project is to install a 2nd landfill gas flare to comply with Regulation 8-34 which is based on the Federal NSPS for landfill gas handling and destruction.

2. EMISSION CALCULATIONS

Emission Factors:

The emission factors as well as a comparison against current RACT and BACT levels, as well as the basis for the factors are presented in the following table.

Table 1 A-2 Landfill Gas Flare #2 Criteria Pollutant Emission Factors[1]

Pollutant	Factor	Basis	RACT	BACT[2]
NOx	0.050 (lb/MM Btu)	Manufacturers guarantees	0.06 (lb/MM Btu	0.06 (lb/MM Btu
CO	0.2 (lb/MM Btu	Manufacturers guarantees	0.2 (lb/MM Btu	n/s
PM	0.001 (lb/hr-scfm)	AP-42	n/s	n/s
SOx	300 ppmv TRS in LFG	New Permit Limit (Cumulative Increase)	n/s	n/s

[1]NMOC factor not included as emissions of NMOC are implicitly accounted for in the facility permit to operate to landfill disposal tonnage capacity.
[2]As taken from BAAQMD BACT/TBACT Workbook

NOx Emissions:

IDC's goal is to keep facility-wide NOx emissions below 50 tons/year so that this facility will be able to have NOx offsets provided from the small facility banking account. To accomplish this IDC has agreed to accept limits on the NOx emissions from both A-1 and A-2 landfill gas flares.

A-1 LFG Flare #1: Capacity: 84 MM Btu/hr @ 0.05 lb/MM Btu
NOx = (0.05 lb/MM Btu)(84 MM Btu/hr) = 4.2 lb/hr
= (4.2 lb/hr)(24 hr/day) = 100.8 lb/day
= (100.8 lb/day)(365 day/yr) = 36,792 lb/yr (18.4 tpy)

A-2 LFG Flare #2: Capacity: 75 MM Btu/hr @ 0.05 lb/MM Btu
NOx = (0.05 lb/MM Btu)(75 MM Btu/hr) = 3.75 lb/hr
= (3.75 lb/hr)(24 hr/day) = 90 lb/day
= (90 lb/day)(365 day/yr) = 32,850lb/yr (16.4 tpy)

Conversion to ppmv, dry, flare exhaust:

F, LFG = 4.7723 sdcf flue gas/sdcf LFG @ 50% CH4 in LFG
Heat Content: 506.5 Btu/scf LFG
1 MM Btu LFG = 1974.3 dscf LFG

PPM @ stoichiometric oxygen = [(0.05 lb NOx/MM Btu)(mole NOx/46 lb)]/[(1974.3 dscf LFG/MM Btu)(mole/385.6 dscf)/1E6] = 212 ppm @ 0% excess oxygen

Conversion to 15 % oxygen:
PPM @ 15% excess oxygen = 212 ppm [(20.95 – 15)/20.95] = 60 ppmvd

CO Emissions:

IDC proposed a CO emission factor limit of 0.2 lbs/MM BTU. This is equal to the RACT emission factor limit for CO emissions for landfill gas flares with a NOx limit of 0.06 lbs/MM BTU.

A-2 Flare #2: 75 MM Btu/hr @ 0.2 lb/MM Btu
CO = (0.2 lb/MM Btu)(75 MM Btu/hr) = 15 lb/hr
= (15 lb/hr)(24 hr/day) = 360 lb/day
= (360 lb/day)(365 day/yr) = 131,400 lb/yr (65.7 tpy)

PM10 Emissions:

A-2 Flare #2: 75 MM Btu/hr @ 0.001 lb/hr-scfm
CO = (2500 scfm)(0.001 lb/hr-scfm) = 2.5 lb/hr
= (2.5 lb/hr)(24 hr/day) = 60 lb/day
= (60 lb/day)(365 day/yr) = 21,900 lb/yr (10.9 tpy)

SO2 Emissions:

Sulfur dioxide (SO_2) emissions are calculated based on a maximum permitted landfill gas sulfur content of 300 ppmv expressed as H_2S. There are no established RACT limits for SO_2 emissions from flares.

SO2, A-2= (300 lb-mole H2S/1E6 lb-mole LFG)[(2500 scf/min)(lb-mole LFG/386 scf)(60 min/hr)(1 mole SO2/mole H2S)(64 lb SO2/lb-mole SO2)] = 7.46 lb/hr
= (7.46 lb/hr)(24 hr/day) = 179.1 lb/day
= (179.1 lb/day)(365 day/yr) = 65,360 lb/yr (32.7 tpy)

BTU based emission factor @ 300 ppm

SO2 = (300 E-6 lb-mole H2S/lb-mole LFG)(lb-mole SO2/lb-mole S)(64 lb SO2/lb-mole SO2)(lb-mole LFG/386 scf)/(506.5 Btu/scf)
= 9.82E-08 lb SO2/Btu LFG
= (9.82E-08 lb SO2/Btu LFG)(1MM Btu)
= 0.092 lb SO2/MM Btu

SO2 Emission Reduction from A-1 (2786 scfm @ 84 MM Btu/hr):

SO2 = [1300 E-6 mole – 300 E-6 mole H2S](2786 scf/min)(mole LFG/386 scf)(60 min/hr)(24 hr/day)(365 day/yr)(1 mole SO2/mole H2S)(64 lb SO2/mole SO2)(ton/2000 lb) = 121.4 tpy

300 ppm Exhaust Gas Limit Calculations: At 50% methane, the flue gas production factor, F is 4.7723 cu ft flue gas/cu ft LFG. An outlet concentration of 300 ppm @ 0% oxygen (conservative) would yield:

SO2 out = (2,500 scf/min LFG)(4.7723 cu ft FG/cu ft LFG)(300 cu ft SO2/1E6 cu ft FG)(lb-mole/386 cu ft)(64.05 lb SO2/lb-mole SO2) = 0.594 lb/hr SO2

H2S in LFG to equal 0.594 lb/min = [(0.594 lb/min)(mole/64.05 lb SO2)(1 mole H2S/mole SO2)(386 cu ft H2S/mole H2S)]/(2500/1E6) = 1432 ppm H2S in landfill gas to equal 300 ppm in flue gas

The previous LFG sulfide limit was 1300 ppm. This limit is the approximate LFG concentration that would result in a combustion source exhaust SO2 concentration of 300 ppm. This limit will be maintained as an instantaneous limit, and 300 ppm will be the annual average limit. An exceedance of either of these limits would result in a violation notice unless the applicant can demonstrate that the underlying regulatory basis would not be exceeded.

(i) Toxic Emissions

Emissions of toxic compounds from the landfill gas flares include those toxics that are contained in the landfill gas and are wholly or partially destroyed as well as the secondary toxic air contaminants generated in the combustion process. The landfill gas related POC or toxic pollutant emissions contained in the landfill gas are not considered in this analysis because the landfill has not been modified. The secondary air toxic emissions to be considered (based on 2500 scfm) are presented in Table 2 along with a sample emission calculation, as follows:

Formaldehyde = (2,500 cf/min)(525.6 E03 min/yr)(0.18 lb/1 E6 cf) = 236.5 lb/yr

Table 2 A-2 Landfill Gas Flare #2 Secondary Toxic Pollutant Emission Factors[1]

Pollutant	Factor (lb/MM cf LFG)	Emissions (lb/yr)	Emissions (lb/day)	Table 2-5-1 Trigger Level (lb/yr)
HCL	3.8	4952	13.6	350
HBR	4.2	5495	15	930
HF	0.3	340	0.93	540
Formaldehyde	0.18	237	0.65	30

[1]Factors taken from secondary toxic emissions, AN 11466 & 11467, CSAllen

Since the toxic trigger level for formaldehyde is exceeded, a risk screening assessment is required.

3. EMISSIONS SUMMARY-CRITERIA POLLUTANTS

Table 3 A-2 Landfill Gas Flare #2 Emissions

	NOx (tpy)	CO (tpy)	PM10 (tpy)	SOx (tpy)
Current-IDC (plant 9013)				
A-1 Flare	18.3	73.22	12.20	157.81 (@ 1300 ppm)
Current-BFI The Recyclery (plt 5472)	15.19	8.6	15.83	2.6
Current Totals	33.49	81.82	28.03	160.41
Revised Current SOx (@ 300 ppm LFG Sulfide)				39.02 (decrease-121.4 tpy)
Proposed-IDC				
A-1 Flare	18.3	73.22	12.20	36.4 (@ 300 ppm)
A-2 Flare	16.43	65.70	10.95	32.7
Proposed-BFI The Recyclery	15.19	8.6	15.83	2.6
Proposed Totals	49.92	147.52	38.98	71.7
Net Increase	16.43	65.7	10.95	32.7
Offset Ratio	1:1	n/a	n/a	n/a
Source of Offsets	SFB	n/a	n/a	n/a

4. CUMULATIVE INCREASE/OFFSETS

Table 4 Project Cumulative Increase-Offsetting Summary

POLLUTANT	PROJECT EMISSIONS INCREASE (tpy)	PLANT 9013 + 5472 EMISSIONS (tpy)	OFFSET MASS (tpy)	NET INCREASE (Tpy)	PLANT 9013 CUMULATIVE INCREASE, (tpy) (Post-project)
NOx	16.4	33.5	16.4	0	-
CO	65.7	81.8	-	65.7	65.7
PM	10.9	28	-	10.95	10.95
SO2	32.7	39.0	-	32.7	32.7

POC & NOx Offsets:

According to Regulation 2 Rule 2-302, before the District may issue an Authority to Construct or Permit to Operate for a new or modified source at a facility that emits or will be permitted to emit more than 15 tpy but less than 50 tpy of POC or NOx on a pollutant specific basis, emission offsets shall be provided by the District at a 1.0 to 1.0 ratio from the Small Facility Banking Account in accordance with the provisions of Regulation 2-4-414. Offsets shall be provided for the emissions from the new or modified source, plus any pre-existing cumulative increase, minus any onsite contemporaneous emission reduction credits determined in accordance with Section 2-2-605.

Total combined facilities (plant A9013 + A5472) NOx emissions, post-project will be 49.92 tpy. Therefore 16.4 tpy of NOx offsets will be withdrawn from the Small Facilities Bank Account to offset the emission increases from this project. There were no plant A9013 cumulative increases for NOx, CO, PM10, or SO2. Since the combined totals for all other pollutants is less than 100 tpy for both IDC and BFITR combined, no offsets or further review is required.

There are no increases in POC emissions, hence no offsets are required.

PM & SO2:

According to Regulation 2 Rule 2-303, before the District may issue an Authority to Construct or Permit to Operate for a new or modified source of PM10 or SO2, at a major facility, which emits or will be permitted to emit more than 1 ton/year on a pollutant specific basis, emission offsets shall be provided by the District at a 1.0 to 1.0 ratio from the Small Facility Banking Account in accordance with the provisions of Regulation 2-4-414. Offsets shall be provided for the emissions from the new or modified source, plus any pre-existing cumulative increase, minus any onsite

contemporaneous emission reduction credits determined in accordance with Section 2-2-605. Since the combined emissions of both pollutants from IDC & BFI are less than 100 tpy, these plants combined do not constitute a Major Facility for either PM10 or SO2, therefore offsets do not need to be provided for these pollutants.

5. TOXIC EVALUATION

Toxic emissions from this source include the substances listed in Table 1 with an asterisk next to the name. Materials with 2 asterisks require a multi-pathway approach. In these cases, the unit risk values and the RELs have been adjusted to account for this.

Our toxic analysis used the following assumptions in the development of the risk estimates for this engine:

Meteorological Data: Alviso (ALV) Met Data
Exhaust flow: 42,263 cfm @ 10.5 ft dia @ 1400 deg F
Stack height: 42.7 ft (located outdoors)
Operation: 24 hr/day @ 7 day/wk @ 52 wk/yr
Emission Rate: 1 g/sec
Project Term: 70 years
Building Parameters/Footprint: See risk screening info request form
Nearest residence: not determined
Distance to Property Line: not determined
Industrial Exposure factor: 0.66

Carcinogenic Risk Evaluation

As a first pass risk screen the maximum modeled concentration was used to estimate all health risks for both residential and industrial receptors. The maximum calculated carcinogenic risk is less than 1 in a million. Therefore the highest carcinogenic risk is below levels of significance.

Non-Carcinogenic Chronic Risk Evaluation

Non-carcinogenic chronic risks were estimated using the REL for chronic inhalation. The tabulation of the emissions is shown in a spreadsheet in this evaluation, as are the calculated hazard indices for the various pollutants. The chronic non-cancer hazard index for the maximally exposed residential receptor is <0.1, and is therefore insignificant. Since the estimated residential risk is based on the MEI concentration (regardless of residential/industrial receptor locations), the risk to the maximally exposed industrial receptor will also be less than 1 in a million.

Non-Carcinogenic Acute Risk Evaluation

Non-carcinogenic acute risks were estimated using the REL for acute inhalation. The tabulation of the emissions is shown in a spreadsheet in this evaluation, as are the calculated hazard indices for the various pollutants. The acute non-cancer hazard index for the maximally exposed residential receptor is <0.1, and is therefore insignificant.

Public Notification: This source is not located within ¼ mile of any school, therefore no Waters Bill public notification requirements are triggered.

6. STATEMENT OF COMPLIANCE

A. Toxic Risk:

Carcinogenic risk to the maximally exposed resident and industrial receptors are both less than 1 in a million and are therefore insignificant. The non-cancer acute and chronic hazard indices are both less than 0.1 and are therefore insignificant. This source complies with Regulation 2 Rule 5, Toxic New Source Review requirements. No public notice requirements are triggered.

B. Regulation 1 – General Provisions and Definitions

§1-301: Prohibits discharging emissions in quantities that cause injury, detriment, nuisance, or annoyance. An operating permit condition, which addresses public nuisance, will be written into the permit conditions.

C. Permits – General Requirements, Regulation 2 Rule 1

The issue of public notice is addressed in the Toxic Risk, Part A, above.

D. Permits – New Source Review, Regulation 2 Rule 2 (dated 6-15-2005)

1. **BACT:** BACT is not applicable to the emissions of secondary pollutants emitted by an abatement device that complies with the BACT or BARCT requirements for the control of another pollutant (Reg 2-2-112). Emissions of NOx, CO, PM and SO2 are deemed secondary pollutants for the control of landfill gas originated precursor organic compounds. RACT requirements do, however, apply this flare. District specifies RACT for an enclosed landfill gas flare as 0.06 lb/MM Btu NOx and 0.20 lb/MM Btu CO. In this case, the landfill gas flare A-2 meets RACT with emission factors of 0.05 and 0.2 respectively, as shown in Table 1.

2. **Offset Requirements:** §2-2-303: The issue of offsets was dealt with in Section 4 above. To summarize, NOx offsets of 16.4 tpy will be provided by the small facilities account.

3. **Prevention of Significant Deterioration:** §2-2-304: PSD review is required for a new major facility which will emit 100 tons per year or more of a regulated air pollutant, if it is one of the 28 PSD source categories listed in Section 169(1) of the Federal Clean Air Act, or 250 tons per year or more for an unlisted category. PSD review is also required for a major modification of a major facility if the cumulative increase from the PSD Baseline Date, minus the contemporaneous emission reduction credits at the facility are in excess of 40 tons per year of sulfur dioxide or nitrogen oxides, or 15 tons per year of PM10. Regulation 2-2-305 also requires a PSD review for a major modification of a major facility with an increase of 100 tons per year or more of carbon monoxide.

   Landfills and landfill gas combustion equipment are not in one of the 28 listed categories that are subject to the lower PSD Major Facility threshold of 100 tons/year. Combined facility emissions for IDC Newby Island and VFI The Recyclery are less than 250 tons per year for each pollutant. Therefore PSD review in not triggered.

E. Regulation 3 – Fees

IDC-Newby Island has complied with the fee requirements for this application.

F. Particulate Matter and Visible Emissions, Regulation 6

1. Section 301 prohibits for more than 3 minutes per hour, visible emissions as dark or darker than Ringelmann 1 or equivalent opacity. A-2 Landfill Gas Flare is expected to comply with this requirement.

2. Section 305 prohibits emissions of visible particles from causing a nuisance on property other than the operators. A-2 is expected to easily comply with this standard.

3. Section 310 limits the particulate concentration in exhaust gases to 0.15 gr/dscf. At the estimated 2,500 cfm landfill gas feedrate, on a highest day emissions basis, the resulting concentration in the exhaust would be 0.007 grain/dscf. Hence this operation complies with this requirement.

G. NSPS/NESHAPS

Landfills and landfill gas combustion equipment may be subject to the federal New Source Performance Standard (NSPS) for Municipal Solid Waste (MSW) Landfills or the Emission Guidelines (EG) for MSW Landfills. The federal NSPS for NSW Landfills (40CFR Part 60, Subpart WWW) applies to landfills that have had a design capacity modification after May 30, 1991. The Emission Guideline applies to landfills the have had no design capacity modification since May 30, 1991, but that have accepted waste since November 8, 1987. The IDC-Newby Island Landfill had no design capacity modifications since May 30, 1991, but

waste was accepted after November 8, 1987. The EG requirements were implemented with the adoption of Regulation 8 Rule 34.

Regulation 8 Rule 34

The proposed landfill gas flare A-2 will achieve compliance with Regulation 8-34-301.3 which requires an enclosed ground flare to reduce the NMOC in the collected gas by at least 98 percent by weight or emit less than 30 ppmv NMOC (expressed as methane at 3% O2). Annual source testing and continuous flare temperature monitoring are required.

H. CEQA

This project is categorically exempt from CEQA Review since *air pollution control or abatement equipment* are noted as exempt in Regulation 2-1-312.2.

I. Regulation 9-1, Sulfur DIoxide

This regulation limits the sulfur dioxide concentration in the flue gas to 300 ppmv (dry). As shown in the SO2 calculations in Part 2 of this Engineering Evaluation, the inlet concentration of H2S in the landfill gas would have to be at least 1432 ppm, assuming no excess oxygen to exceed 300 ppm in the exhaust gas. Landfill gas sulfide levels are routinely 50 ppm or less, therefore the 300 ppm limits in both the inlet and exhaust gases will easily be met. The 1300 ppm (to allow for LFG heating value variances) will be left in place to ensure that the 300 ppm exhaust limit is not exceeded.

6. CONDITIONS

Recommend modifying the permit conditions for the landfill and flare to incorporate the additional landfill gas flare as well as the revised concentration limits.

Flare Exhaust NOx Concentration Limit:	60 ppmvd NOx at 15% oxygen
Total Reduced Sulfur limit in landfill gas:	300 ppmvd, as H2S, annual average

7. RECOMMENDATIONS

Issue permit to operate for S-2 subject to revised Condition # 10423.

For: S-2, NEWBY ISLAND SANITARY LANDFILL WITH GAS COLLECTION SYSTEM; ~~AND~~ ABATED BY A-1 AND A-2 LANDFILL GAS FLARES

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-l 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.-l., 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.-l.

d. Any contaminated soil received at the facility shall be clearly identified as contaminated soil, shall be handled in accordance with subparts e.-l. 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 (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 Permit Holder shall apply for and receive an Authority to Construct before modifying the landfill gas collection system. Increasing or decreasing the number of wells or collectors, or significantly changing the length of collectors or the locations of wells or collectors are all considered to be modifications that are subject to the Authority to Construct requirement.
   a. The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below. Well and collector locations, depths, and lengths are as described in detail in Permit Applications #2405 and #2563.

	Current
Total Number of Vertical Wells:	123

   b. The Permit Holder has been issued an Authority to Construct for the additional landfill gas collection system components listed below. Specific well locations, depths, and lengths of associated piping are described in detail in Permit Application #8121. After receiving a written start-up notification for any wells or collectors that have been installed, the APCO will revise the number of wells listed in Parts 6a and 6b using the minor permit amendment procedures identified in Regulation 2-6-414.

	Proposed
Additional Number of Wells and Collectors:	
(Vertical)	69
(Horizontal)	8

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

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 A-1 Landfill Gas Flare shall not exceed 2,006 million BTU per day nor 732,095 million BTU per year.~~
   The heat input to the Landfill Gas Flares A-1 and A-2 shall not exceed the following limits:

   a. A-1 Landfill Gas Flare: 2,006 million BTU per day nor 732,095 million BTU per year.
   b. A-2 Landfill Gas Flare: 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~~ each 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, (c) and a high heating value for methane of 1013 BTU/ft3 at 60 degrees F. (basis: Regulation 2-1-301)

9. Combustion Zone Minimum Temperatures

a. A-1 Landfill Gas Flare: The minimum combustion zone temperature of the landfill gas flare A-1 shall be maintained at a minimum of 1575 degrees F, averaged over any 3-hour period.

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

~~The minimum combustion zone temperature for the A-1 Landfill Gas Flare shall be equal to the average combustion zone temperature determined during the most recent complying source test minus 50 degrees F, provided that the minimum combustion zone temperature is not less than 1400 degrees F. Effective July 1, 2002, the combustion zone temperature of for A-1 shall be maintained at a minimum of 1400 degrees Fahrenheit, 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 procedure~~s~~. ~~identified in Regulation 2-6-413~~. The minimum combustion zone temperature for the flare shall be equal to the average 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 collected landfill gas ~~on a~~ at a frequency of at least once every calendar quarter~~ly basis~~ using a Draeger Tube or by chromatography (BAAQMD Lab Method 44A) or by any other equivalent method as approved in advance by the APCO. The landfill gas sample shall be taken from the main landfill gas header. The Permit Holder shall follow the manufacturer~~'s~~ or BAAQMD recommended procedures for sampling, analysis and ~~using draeger tube~~ interpret~~ing~~ion of the results. ~~The Permit Holder shall conduct the first draeger tube test no later than 3 months after the issue date of the MFR Permit and quarterly thereafter~~. ~~thereafter~~. (basis: Regulation 9-1-302)

b. Nitrogen Oxides: The concentration of nitrogen oxides (NOx) 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 of 0.05 pounds of NOx (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 & A-2). As a minimum, the annual source test shall determine the following:
    a. Landfill gas flow rate to the flare (dry basis);
    b. Concentrations (dry basis) of carbon dioxide (CO2), nitrogen (N2), oxygen (O2), total hydrocarbons (THC), methane (CH4), and total non-methane organic compounds (NMOC) in the landfill gas;
    c. Stack gas flow rate from the flare (dry basis);
    d. Concentrations (dry basis) of NOx, CO, THC, CH4, NMOC, Benzene, Formaldehyde, Vinyl Chloride, and O2 in the flare stack gas;
    e. The THC, CH4, and NMOC destruction efficiencies achieved by the flare; and
    f. The average combustion temperature in the flare during the test period.

    The first source test shall be conducted no later than October 1, 2002. Subsequent 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 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 rates to the A-1 and A-2 Landfill Gas Flares on a daily basis. 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 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)

By: _____

Randy E. Frazier, P.E.
10 August 2005

ENGINEERING EVALUATION REPORT FOR APPLICATION 13071

PLANT NAME	**International Disposal Corporation (IDC) – Newby Island Landfill**
PLANT NUMBER	**A9013**
APPLICATION NUMBER	**13071**
PLANT/SITE ADDRESS	**1601 West Dixon Landing Road/Milpitas, CA**
DATE	**1 December 2005**
ENGINEER	**R.E. Frazier**
PAGE	**1 of 2**

1. BACKGROUND

The International Disposal Corporation (IDC) – Newby Island Landfill (plant #9013) has applied for a change of condition to operate the Newby Island Landfill as follows:

S-2 Active Solid Waste Landfill with Gas Collection System – Installation of up to 40 vertical landfill gas (LFG) extraction wells, redrilling of 13 existing vertical LFG extraction wells, decommissioning up to 11 vertical wells, installation of associated piping.

It should be noted that permit application # 8121 allowed the installation of an additional 69 vertical and 8 horizontal LFG extraction wells. According to the February 25, 2005 semi-annual Title V report, the current number of wells in operation (post AN 8121 installation) is 178 vertical and 10 horizontal wells. Part 6a will be modified to include these numbers. These are the minimum number of wells which must be operated to satisfy the requirements of 8-34-301.1 and 8-34-219.

2. EMISSIONS DISCUSSION

The collected landfill gas from this facility is processed preferentially at the engines located at the Gas Recovery Systems facility (plt #11670, unrelated to the Newby Island Landfill), at the San Jose/Santa Clara Water Pollution Control Plant (#778), and lastly at the on-site landfill gas flares A-1 and A-2. All emissions from the flares and the IC engines have already been accounted for in previous permit applications, and therefore there is 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 #13197.

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 other current landfill permits. The wording was carefully developed and was recommended by Carol S. Allen, Senior Engineer and Landfill Specialist, Toxics Evaluation. The revised condition is listed as follows (underline is new text):

6. <u>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.</u>~~The Permit Holder shall apply for and receive an Authority to Construct before modifying the landfill gas collection system. Increasing or decreasing the number of wells or collectors, or significantly changing the length of collectors or the locations of wells or collectors are all considered to be modifications that are subject to the Authority to Construct requirement.~~

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 described in detail in Permit Applications #2405, ~~and~~ #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 start-up/shut-down notification letters submitted to the District.

	~~Current~~
~~Total Number of Vertical Wells~~	~~123~~178 Vertical Wells 10 Horizontal collectors

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.. ~~Specific~~ ~~w~~Well and collector locations, depths, and lengths ~~of associated piping~~ are described in detail in Permit Application #~~8121~~13071. ~~After receiving a written start-up notification for any wells or collectors that have been installed, the APCO will revise the number of wells listed in Parts 6a and 6b using the minor permit amendment procedures identified in Regulation 2-6-414.~~

~~Additional Number of Wells and Collectors:~~

- ~~(Vertical)~~ Install up to ~~69~~40 vertical wells
  ~~(Horizontal)~~ ~~8~~
- 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 ~~2-1-301~~, 8-34-301.1, 8-34-303, 8-34-304, 8-34-305)

5. RECOMMENDATIONS

Recommend that an Authority to Construct be issued to the International Disposal Corporation as follows:

S-2 Active Solid Waste Landfill with Gas Collection System – Installation of up to 40 vertical landfill gas (LFG) extraction wells, redrilling of 13 existing vertical LFG extraction wells, decommissioning up to 11 vertical wells, installation of associated piping.

by: _____
Randy E. Frazier, P.E.
Senior Air Quality Engineer
1 December 2005