



State of Ohio Environmental Protection Agency

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Ted Strickland, Governor  
Lee Fisher, Lieutenant Governor  
Chris Korleski, Director

January 6, 2010

**RE: Lorain County II Landfill  
Lorain County  
Gas Collection and Control System  
Notice of Violation / Notice of Deficiency**

**CERTIFIED MAIL**

Mr. Chris Jaquet  
Environmental Manager  
Lorain County Landfill, LLC  
43502 Oberlin Elyria Road  
Oberlin, OH 44074

Dear Mr. Jaquet:

This correspondence is Ohio EPA's response to the latest submittal dated January 28, 2009, regarding Republic Services, Inc.'s (Republic) evaluation of the landfill gas system for the Lorain County Landfill, owned by Lorain County Landfill, LLC. The document, titled "Landfill Gas Collection and Control System (GCCS) Design Plan," was submitted in accordance with Order 7 of Director's Final Findings and Orders (DFFOs) dated December 5, 2006. Order 7 states:

*"...Respondent shall conduct a complete evaluation of the Facility's explosive gas extraction system to determine if it is adequate for controlling gas at the Facility. Respondent shall provide the findings of this evaluation along with all supporting documentation to Ohio EPA in writing within ninety (90) days after the effective date of these orders..."*

Ohio EPA's review has concluded that Republic's evaluation is incomplete, as it lacks sufficient findings and supporting documentation necessary to determine whether the facility's gas system is adequate to control gas at the facility. **Republic is, therefore, in violation of Order 7 of the DFFOs. This violation is based on the general information provided in the "Review Findings" section, page two, of this correspondence and specific text in the attachments.**

**Background**

The December 5, 2006 DFFOs were issued to Browning-Ferris Industries of Ohio, Inc. (BFIO) as a result of ongoing operational and odor problems at the landfill in 2005 through 2006. Since then, Republic acquired BFIO (including Lorain County Landfill, LLC) and thus is responsible for complying with the DFFOs. BFIO and/or Republic made four separate submissions to Ohio EPA in an attempt to comply with Order 7. The first three submissions were made as follows: March 5, 2007; June 11, 2007; and January 4, 2008. Each response contained significant deficiencies such that the findings did not support claims for controlling gas at the facility.

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The latest revision, received January 28, 2009, is the focus of this letter. Prior to its submittal, Ohio EPA received a January 15, 2009 email message from Republic's consultant, Cornerstone Environmental Group, indicating the submittal would contain a complete GCCS design plan and incorporate all previous submittals and letters. The cover letter to the GCCS states that the current plan supersedes all other previously submitted GCCS Design Plan submittals.

### Review Findings

Ohio EPA has concluded that the evaluation in Republic's January 28, 2009 GCCS is incomplete and is in violation of Order 7 of the DFFOs. Although the specific deficiencies and comments that support Ohio EPA's findings are included in four attachments as discussed below, the general findings consist of the following:

1. The January 28, 2009 evaluation is missing revisions that had been made to previous submittals. A resubmittal, typically, is a copy of the previous document with updated language and information in certain sections to address prior deficiencies. The January 28, 2009 revision, however, is a complete revision of the GCCS evaluation. Although intended to supersede prior GCCS submittals, the revisions made to previous versions were removed.
2. Republic's current evaluation focuses only on conformance with the federal, "New Source Performance Standards (NSPS)" air pollution regulations. The plan did not contain any information pertaining to the ability of the gas system to adequately control gas in compliance with Ohio's solid waste and air pollution control requirements, including those regulations addressing nuisance odors as specified in OAC 3745-27-19(B)(3), 3745-27-19(B)(5) and 3745-15-07. The Agency's November 30, 2009, "Notice of Violation" letter, verified that landfill gas odors continue to pose a public nuisance and, also, indicate that the facility's gas system may not be adequately designed to capture the amount of gas being generated.
3. Republic's current evaluation does not account for an increase in gas production from the facility's recirculation of 7 million gallons of leachate. In addition to this issue, other deficiencies such as the improper waste mass / volume and default input values are also producing inaccurate gas production estimations.

The first two attachments contain the findings from Ohio EPA's first two reviews. These deficiencies remain unaddressed and are being re-sent as "Attachment A – April 20, 2007 email from Jerry Parker" and "Attachment B – September 25, 2007 Notice of Deficiency and Comments." Additional deficiencies and comments not previously identified are included as "Attachment C – Deficiencies" and "Attachment D – Comments."

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**Within forty-five (45) days of receipt of this letter, Republic should submit a complete GCCS evaluation that has been revised to meet Order 7 of the December 5, 2006 DFFOs. Republic remains in violation of Order 7 until such time as Republic submits a complete evaluation of whether the facility's explosive gas extraction system is adequate for controlling gas at the facility.**

Please submit your response to my attention. If Republic and Cornerstone would find it beneficial to meet with representatives of DSIWM-NEDO to discuss the contents of this letter, please contact me electronically at [jerry.parker@epa.state.oh.us](mailto:jerry.parker@epa.state.oh.us) or by telephone at (330) 963-1186.

Sincerely,



Jerry L. Parker  
Environmental Engineer  
Division of Solid and Infectious Waste Management

JLP:cl  
Attachment

cc: Clarissa Gereby, DSIWM-NEDO  
Erik Bewley, DAPC-NEDO  
John Sabo, Lorain County Health Department  
Angie Krueger, Cornerstone  
File: [Kurko / Lorain County I Landfill / Cor / 47]  
File: [Kurko / Lorain County II Landfill / Cor / 47]

Project ID # 223

**LORAIN COUNTY LANDFILL  
GAS COLLECTION AND CONTROL SYSTEM DESIGN PLAN  
NOTICE OF DEFICIENCY  
ATTACHMENT C  
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**I. DEFICIENCY ONE  
LANDFILL DESCRIPTION  
WASTE MASS / VOLUMES**

The second paragraph of Section 2.1, "Landfill Description", page 2-1, states the following: "...Waste placement in the Lorain II disposal area began in 1985, and is expected to remain in operation through approximately 2025. Lorain II has approximately 24.4 million tons of MSW currently in place, with a total design capacity of approximately 39.4 millions tons and a permitted footprint of approximately 279 acres. Of this area, approximately 175 acres have currently developed for waste disposal..." Based on information provided in several sources, Ohio EPA has several questions pertaining to this text. First, a remaining life of 13.9 years was calculated from the AMDWR and provided on line 3a of the 2008 annual report. A remaining life of 24.6 years was also determined which was established from the 2008 waste receipts and listed on line 3b of the report. Since the 2025 time frame in the text above does not concur with the annual report time frames, Republic is asked to explain.

Second, as provided in the text above, approximately 24.4 million tons of MSW has been placed with a total design capacity of approximately 39.4 millions tons. Based on this data, 15 million tons remain which conflicts with the tonnage of 28.1 million on line 4 of the annual report. This discrepancy should be clarified. Third, "V-Fill" PTI # 02-15346, Volume III of IV, Section (C)(4), "Design Calculations", specifies a gross airspace of 52.5 million cubic yards (cys) and an in-place density of 1.76 cys per ton which represents 29.9 million tons. Based on the compaction ratio of 1.08 ton / cys on page 21 of the annual report, the gross tonnage represents 56.8 million tons. Since the tonnage is an important parameter in calculating landfill gas generation in the LANDGEM Model which is discussed in Deficiency V, it is critical that the proper mass be determined. Finally, the text states that 175 acres of the 279 acres have been currently developed for waste disposal. On November 20, 2009, a construction certification concurrence letter was finalized for 15 acres of the eastern portion of Cell A of the "V-Fill" area. In addition to the developed acreage being revised, the text should also include a phasing schedule for the remainder of Cells A (West) through Cell E in this area including time frames and acreages.

**II. DEFICIENCY TWO  
LANDFILL GAS COLLECTION AND CONTROL SYSTEM  
INTERIM HORIZONTAL TRENCHES**

The last sentence in the first paragraph of Section 2.2, "Landfill Gas Collection and Control System", page 2-1, states: "...The proposed design consists of vertical wells and interim horizontal trenches to extract LFG from the disposal area..." These

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components are shown on Plan Sheet (P.S.) 1B, "Lorain II Existing Conditions Site Plan". As described in the August 19, 2009 concurrence letter for a cap repair relating to two subsurface oxidation events, it was documented that Horizontal Gas Collector (HGC)-11 was inadvertently connected to the LFG extraction system. As a result, the riser for the collector was cut and removed while the bottom portion was capped in place. In addition to updating the text and the P.S. to reflect the HGC-11 activities, the GCCS plan should also indicate the future plans for HGC-12 through HGC-17. With the installation of vertical extraction wells in the areas, the interim HGCs are no longer necessary and should be removed from the system. Upon removal of the collectors, P.S. 6, "Landfill Gas Collection & Control System, Details" can be eliminated because it only includes three details for the collectors.

**III. DEFICIENCY THREE  
LANDFILL GAS COLLECTION AND CONTROL SYSTEM  
LFG CONVEYANCE**

The following sentence is provided in the second paragraph on page 2-2 of Section 2.2, "Landfill Gas Collection and Control System": "...LFG is conveyed through this pipe network to the flare or power generation facility, located southwest and northeast of the disposal area..." Based on the information provided in Section 4.6.5, "Control Systems", page 4-16, the above text should be revised to more accurately reflect the conveyance of LFG to the following: an enclosed flare in the southeastern portion of Lorain I Landfill, the power generating facility with a utility flare that accepts LFG from both Lorain I and II Landfills and two enclosed flares in the northeastern portion of Lorain II Landfill.

**IV. DEFICIENCY FOUR  
COMPLIANCE WITH §60.759(a)(1)  
NSPS COMPLIANCE**

Section 4.1, "Compliance with §60.759(a)(1)", page 4-1, states that the GCCS has been designed to be consistent with NSPS requirements. In DAPC-NEDO's November 5, 2009 letter to Republic, Comment 3 on page 2 reflects that three wells had Alternative Timeline Requests (ATR) submitted in May 2009 requesting until August 2009 to operate within acceptable operating parameters (AOP). The following wells, however, are still not operating within the parameters as follows: Well 2043 (high oxygen), Well 294R (high oxygen) and Well 2048 (high pressure). In the revised plan, Republic should address the plan for bringing these wells back to AOP as stated in the previously mentioned correspondence.

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**V. DEFICIENCY FIVE  
COMPLIANCE WITH §60.759(a)(1)  
LANDGEM MODEL**

Appendix A-1, "Gas Generation Rate Modeling (LANDGEM V3.02", is referenced in Section 4.1, "Compliance with §60.759(a)(1)", page 4-1 and Section 4.1.3, "Landfill Gas Generation Rates and Flow Characteristics", page 4-2. Based on a review of the model, the Agency has the following issues. First, Ohio EPA requests that the attachment include an introductory section that explains the purpose, the conclusion and the contents of the model. With regards to the contents, the following has been included in the attachment: computation sheet (3 pages), Lorain County II Landfill Summary (12 pages) and a summary for Lorain County I Landfill (12 pages). The introduction should describe the various components of the model as well as the location of any specific data in the components to develop any conclusions such as the maximum LFG generation of 19,478 scfm that is cited on page 4-2 of the plan.

Second, on page 1 of 3 of the model, "Where" section, the following text is provided: "...LandGEM is considered a screening tool – the better the input data, the better the estimates. Often, there are limitations with the available data regarding waste quantity and composition, variation in design and operating practices over time, and changes occurring over time that impact the emissions potential. Changes to landfill operation, such as operating under wet conditions through leachate recirculation or other liquid additions, will result in generating more gas at a faster rate..." This same text was followed by the subsequent language on the first page of the summary reports for both Lorain I and II Landfills: "...Defaults for estimating emissions for this type of operation are being developed to include in LandGEM along with defaults for conventional landfills (no leachate or liquid additions) for developing emission inventories and determining CAA applicability. Refer to Web site identified above for future updates..."

On April 11, 2002, Republic received approval for a "Leachate Recirculation Plan" which allowed 7,007,000 gallons of leachate to be recirculated at Lorain II Landfill between the second quarter of 2002 and the end of 2005. Since the text of the model as well as landfill research has documented increased gas generation associated with leachate recirculation, the landfill company is required to account for this additional gas generation. In the absence of a model default being developed by USEPA to account for this activity, other avenues will need to be explored such as using an additional factor similar to increasing AP-42 default projections.

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Third, Section 4.1.3, "Landfill Gas Generation Rates and Flow Characteristics", page 4-2, states "...Lorain I and Lorain II projections were made utilizing the AP-42 default values –  $k = 0.04 / \text{year}$  and  $L_0 = 100 \text{ m}^3 / \text{Mg}$ ..." Upon review of the inputs for both Lorain I and II Landfills in Appendix A-1 on page two of the summary reports, the Agency confirmed the use of these values. In DSIWM-NEDO's September 25, 2007 NOD letter concerning the GCCS, Republic was asked to provide justification and supporting information with respect to utilizing values of " $k=0.07 / \text{yr}$ " and " $L_0 = 140 \text{ m}^3 / \text{Mg}$ " in the model. Cornerstone, on behalf of Republic, responded on page 4 of a January 3, 2008 NOD response that these conservative values would insure a proposed control strategy that would serve the facility well into the future. In addition, a graph was provided which clearly illustrated the increased LFG generation potential (volume basis) when increasing the AP-42 default values of " $k=0.04 / \text{yr}$ " and " $L_0 = 100 \text{ m}^3 / \text{Mg}$ " to " $k=0.07/\text{yr}$ " and " $L_0 = 140 \text{ m}^3 / \text{Mg}$ ". In addition to justifying the "k" value based on on-site specific data and determined by EPA Method 2E and the " $L_0$ " value based on on-site specific data and determined by waste type and composition as stated in the NOD response, Republic is directed to re-run the model based on this input data. Based on the results, the revised plan should include a graph which depicts the following three gas generation curves: actual generation curve through the current year, a curve using AP-42 values with the appropriate factor and a curve with the revised inputs.

Fourth, Section 4.1.3, "Landfill Gas Generation Rates and Flow Characteristics", page 4-2, states "...Lorain I and II projections were qualified by a factor of 175% to reflect actual operating conditions of the GCCS..." At the bottom of page 1 of 3 of the "Computation Sheet" in Appendix A-1, it is written that "...the design extraction rates have been increased by a factor of 210% compared to the AP-42 default values..." It appears that the Phase I and II LFG generation rate columns on pages 2 and 3 of the "Computation Sheet" have been increased by a factor of 175% when compared to the third column (average gas generation) on page 7 of the summary reports. In addition to explaining the use of a factor of 175% versus the USEPA recommended 210%, Republic is asked to address the proper "adjustment" factor when conservative input data such as " $k=0.07/\text{yr}$ " and " $L_0 = 140 \text{ m}^3 / \text{Mg}$ " are utilized in the future model.

Fifth, on page 3 of 3 of the Compilation Sheet in Appendix A-1, the maximum "MSW In Place (Mg)" for both landfills combined is listed as 39.7 million megagrams (Mg) which equates to 43.7 million tons which is achieved in year 2026. As stated in Deficiency One, the 2008 annual report for Lorain II Landfill has a remaining tonnage of 28.1 million as reflected on line 4. With approximately 24.4 million tons of MSW currently in place in Lorain II for a total of 52.5 million tons and 4.3 million tons in Lorain I, the gross maximum tonnage for both landfills is around 56.8 million tons which does not concur with the tonnage

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in the compilation sheet. In addition, the LANDGEM input review data for Lorain II Landfill specifies a maximum tonnage of 39.4 million tons in year 2027 which is significantly less than the 52.5 million tons that DSIWM-NEDO understands. To ensure that the model is computing valid data, Republic should address these discrepancies.

**VI. DEFICIENCY SIX  
APPENDIX A-3  
CONDENSATE GENERATION ESTIMATES**

On Sheet 1 of 1 of Appendix A-3, "Condensate Generation Estimates", the summary states that an anticipated condensate generation rate will be 8,075 gallons per day. In addition to documenting that there is sufficient sump / pump capacity to handle this flow, the appendix should address methods to ensure that headers and laterals maintain a minimum of 3 slope percent within the limits of waste placement and 0.5 slope percent outside the limits.

**VII. DEFICIENCY SEVEN  
APPENDIX B  
HEAD LOSS ANALYSIS**

On the second page of Appendix B, "Head Loss Analysis", the following information is provided below the design criteria: "...The results of the KYGAS analysis indicate a total system pressure drop of approximately 32" w.c. Please refer to the attached KYGAS output files. This should occur at Node J-88. The maximum con-current velocity is 52.85 fps (Pipe P-77) and the maximum counter-current flow is 33.69 fps (Pipe P-70). All values are within allowable operational ranges..." In attempting to confirm these statements with the output data, several questions arose.

First, with respect to the pressure drop at Node J-88, a line item in the output files provides a node title of W33 and a demand (USFU) of -14. On the next to last page of the output files, the same node title and demand were provided in addition to the following: -27.78 pressure (uspu), 13.69 pressure (psia), -1.00 pressure (psig) and 0.066 density (# / cf). DSIWM-NEDO is unable to verify a 32" w.c. drop at Node J-88 with the information presented in the output files. Second, although it was confirmed that Pipe P-70 has a velocity of 33.69 fps and Pipe P-77 has a velocity of 52.85 fps, the output file does not distinguish between con-current and counter-current velocities. Republic is asked to verify that the information presented in the text is consistent with the data in the output files.

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**VIII. DEFICIENCY EIGHT  
COMPLIANCE REVIEW AND EVALUATION  
DEPTHS OF REFUSE**

Both Section 4.1.2, "Depths of Refuse", page 4-2, and Section 4.4.2.1, "Component Placement", page 4-10, indicate that depths of refuse were calculated at the time of the design of the GCCS. The text states that these calculations were based on existing topography, permit plan and record documentation of landfill liner grades. Since these calculations were not provided in this plan, the revised plan should include "the depth of waste" for all wells that have been installed at both Lorain I and II Landfills. The text also states in Section 4.4.2.1: "...Vertical LFG extraction wells will be designed to extend from the landfill surface to within a separation of 15 feet above the landfill base. In no case will LFG extraction wells be designed to exceed 140 deep in depth..." Ohio EPA, also, requests this information for all wells at both landfills.

**IX. DEFICIENCY NINE  
COMPLIANCE REVIEW AND EVALUATION  
LANDFILL COVER PROPERTIES**

In Section 4.1.4, "Landfill Cover Properties", page 4-2, the text states "...Final cover has been installed over portions of the Lorain County II Landfill, and additional areas will be capped as waste placement progresses to final development grades..." Based on this information, Ohio EPA requests that a plan sheet be added to Appendix C which depicts the following: prior closure areas that have been certified with the appropriate concurrence date, a phasing plan illustrating future capped areas as final waste grades are achieved and the gas extraction wells associated with both the certified and future areas.

**X. DEFICIENCY TEN  
COMPLIANCE REVIEW AND EVALUATION  
TYPE OF PIPING**

Although Section 4.1.11, "Corrosion Resistance", page 4-4, discussed both HDPE and PVC as the primary components used in the construction of the GCCS, only HDPE was mentioned in the third bullet of Section 4.1.12, "Fill Settlement", page 4-5. Republic is asked to address this omission.

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**XI. DEFICIENCY ELEVEN  
EXISTING LANDFILL GAS FLOW RATE DATA  
LORAIN I LANDFILL**

In the second paragraph of Section 4.5.1, "Existing Landfill Gas Flow Rate Data", the following language is provided: "...The maximum LFG generation rate for Lorain County Landfill I was calculated to be approximately 3,600 scfm in 1985. The current LFG generation estimate for 2008 is approximately 721 scfm. Allowing for a recovery efficiency of 90% (Lorain County I is completely capped and closed), a recoverable rate of approximately 649 scfm is anticipated...." In looking at Sheet 2 of 3 in the Computation Sheet of Ap. A-1, the 1985 generation rate is listed as 2,985 scfm and the 2008 rate is 1,189 scfm. In addition to explaining the inconsistency between the text and the appendix, Republic should cite the source of the 90% recovery efficiency.

**XII. DEFICIENCY TWELVE  
EXISTING LANDFILL GAS FLOW RATE DATA  
LORAIN II LANDFILL**

In the third paragraph of Section 4.5.1, "Existing Landfill Gas Flow Rate Data", the following language is provided for Lorain II Landfill: "...The current LFG generation estimate for 2008 is approximately 11,470 scfm. Allowing for a recovery efficiency of 75% (Lorain County Landfill II is an active disposal area under partial closure), a recovery rate of approximately 8,603 scfm is anticipated...." A NSPS collection efficiency of 75% is also cited on the last page of Ap. A-2, "Radius of Influence and Well Spacing Calculations". In looking at Sheet 2 of 3 in the Computation Sheet of Ap. A-1, the 2008 generation rate is 10,137 scfm. In addition to explaining the inconsistency between the text and the appendix, Republic should cite the source of the 75% recovery efficiency.

**XIII. DEFICIENCY THIRTEEN  
LORAIN I AND II LANDFILLS  
EXISTING LANDFILL GAS FLOW RATE DATA**

In the last paragraph of Section 4.5.1, "Existing Landfill Gas Flow Rate Data", page 4-12, the text states: "...Combining the LFG flows from both disposal areas, it is anticipated that approximately 9,252 scfm will be available for recovery in 2008. The current recovery rate is 7,584 scfm. Considering that the LandGEM projections assume "end of year" values, the rate of actual LFG recovery compares well with the anticipated availability of fuel..." Based on this text, DSIWM-NEDO has several concerns. First, the 9,252 scfm flow rate is based on the flows that are being questioned in Deficiencies Twelve and Thirteen. Second, Republic is requested to provide documentation pertaining to its recovery rate of 7,584 scfm.

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Third, 12,191scfm of gas was generated in 2008 with a recovery of 7,584 scfm that equates to a 62% recovery rate. In comparing this rate to the previously cited rate of 75% at Lorain I Landfill and 90% at Lorain II Landfill, Republic is asked to clarify it's response with respect to the "end of the year" reference and the good comparison with the availability of fuel.

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**I. COMMENT ONE  
LANDFILL DESCRIPTION  
PERMIT APPROVAL DATE**

In the first paragraph of Section 2.1, "Landfill Description", page 2-1, it is written that the landfill accepts MSW under PTI No. 02-15346. The text should be revised to also state that the permit was approved on April 4, 2003.

**II. COMMENT TWO  
LANDFILL DESCRIPTION  
REGIONAL LOCATION MAP**

The last sentence in the first paragraph of Section 2.1, "Landfill Description", page 2-1, states the following: "...Located in north, central Ohio, the surrounding area is largely rural, with several residences located within one-half mile of the landfill limits..." The June 2007 and January 2008 versions of the Gas Collection and Control System (GCCS) report included the same text along with a small regional map that is not included in the current submittal. Republic is asked to address the omission of the map.

**III. COMMENT THREE  
LORAIN II EXISTING CONDITIONS**

The last sentence on page 2-2 mentions that additional GCCS information and drawings are located in Appendix (Ap.) C. During the review of Plan Sheet (P.S.) 1B, "Lorain II Existing Conditions Site Plan", it was observed that installed wells from the 2008 and the 2009 gas construction certification reports were not included on the drawing. Although DSIWM-NEDO has not concurred with either of these reports at the present time, both the new and replacement wells in those reports should be included on P.S. 1B.

**IV. COMMENT FOUR  
LANDGEM MODEL  
MSW FRACTION**

In Ap. A-1, Computation Sheet, "Site Conditions" section, page 1 of 3, it is

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written that only the MSW fraction of the waste mass has been utilized in projecting LFG generation rates. Republic is requested to describe the process for determining the proportion of MSW in the waste mass. In addition, since C&DD has also been disposed of in the landfill and generates both methane and hydrogen sulfide in the decomposition process, the company should clarify if this waste stream is included in the "gas generating" waste.

**V. COMMENT FIVE  
LANDGEM MODEL  
COMPUTATION SHEET**

During the review of sheet 3 of 3 in the Computation Sheet of Ap. A-1, it was observed that the maximum "MSW In Place (Mg)" of 39,753,728 cys occurs in Year 2026. Since the maximum composite generation rate (scfm) of 19,478 occurs in Year 2025 as shown in the last column on this page, Republic should address the concern that the computation sheet indicates maximum gas generation will occur before maximum waste placement which is not the typical expectation.

**VI. COMMENT SIX  
LANDGEM MODEL  
SUMMARY REPORT**

On page 2 and 3 of both summary reports of Ap. A-1, a reference is made to "short tons" in the last column. Since DSIWM-NEDO is unfamiliar with this unit, Republic is asked to explain.

**VII. COMMENT SEVEN  
LANDGEM MODEL  
INPUT REVIEW**

DSIWM-NEDO observed in Appendix A-1 that the input review for both the Lorain I and II Landfill's summary reports included the following: NMOC concentration = 600 ppmv as hexane and methane content = 50% by volume. The last sentence on page 4-12 of the plan reflects that all LFG flow data is normalized to methane quality of 50% by volume for comparison purposes. In addition to providing the

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background for these inputs, the relationship of these inputs to the "Pollutant Parameter" list in the summary report is also requested.

**VIII. COMMENT EIGHT  
LANDGEM MODEL  
GAS GENERATION DATA**

During the review of the gas generation data in Ap. A-1, it was observed that half of the results on pages 7, 8 and 9 in both summary reports are "0". If no data is being generated for these portions of the report, DSIWM-NEDO suggests that it not be submitted, if possible. Republic is asked to provide a response to this comment.

**IX. COMMENT NINE  
COMPLIANCE WITH §60.759(a)(2)  
REFERENCE MATERIAL**

In Section 4.2, "Compliance with §60.759(a)(2)", page 4-6, the text refers to the following document in the second paragraph of the section: "Table 5-1, Summary of Suggested Collector Density, Training Course for Landfill Gas NSPS / EG Regulatory Personnel to Review GCCS Design Submittals, North Carolina State University, September, 1998. DSIWM-NEDO requests that a copy of the training course manual be provided in the revised plan.

**X. COMMENT TEN  
APPENDIX E  
ALTERNATIVES TO THE NSPS**

Appendix E, "Alternatives to the NSPS", Section E.1, "Exclude Steep Slopes and Dangerous Areas from Surface Scan Monitoring Requirements", states the following: "... The facility proposes to exclude dangerous areas such as roads, the active fill area, truck traffic areas, construction areas, areas with snow or ice cover, and slopes steeper than or equal to 5:1 from surface testing..." Concerning slopes steeper than or equal to 5:1, Republic is asked to submit additional documentation as to the rationale for classifying these slopes as dangerous areas.

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City, State, ZIP+4

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