

STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES  
& ENVIRONMENTAL CONTROL  
DIVISION OF AIR & WASTE MANAGEMENT  
89 KINGS HIGHWAY  
DOVER, DELAWARE 19901

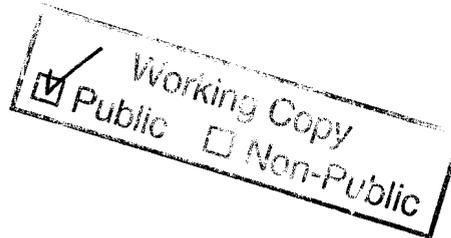


SOLID & HAZARDOUS WASTE  
MANAGEMENT BRANCH

TELEPHONE: (302) 739-9403  
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October 20, 2009

Mr. Thomas E. Houska  
Senior District Manager  
Delaware Recyclable Products, Inc.  
198 Marsh Lane  
New Castle, Delaware 19720



Subject: Minor Modification to the DRPI Industrial Landfill Permit  
Reference: Solid Waste Facility Permit SW-05/01

Dear Mr. Houska:

We have modified environmental monitoring requirements in Section IV of Permit SW-05/01 in accordance with Section 4.1.7 of the *Delaware Regulations Governing Solid Waste (DRGSW)*. This minor permit modification was to address changes in the facility's *Groundwater, Surface Water, and Leachate Monitoring and Reporting Program Plan* corresponding to the new cell construction. The modification included addition of some extra monitoring parameters to the requirements as DRPI was approved to accept petroleum coke gasifier slag from the Delaware City Refinery. The modification also included correction of the old numbering of the DRGSW Conditions cited in the permit to address the new numbering system of the DRGSW.

Please begin using the attached modified permit upon receipt. The modification synopsis at the end of the permit documents which parts of the permit have changed.

If you have any questions concerning this permit modification, please feel free to contact Jae-Soo Chang at (302) 739-9403.

Sincerely,

Handwritten signature of Bryan A. Ashby in cursive.

Bryan A. Ashby  
Environmental Program Manager I  
Solid & Hazardous Waste Management Branch

BAA: JSC: dtd  
Waste Facilities\DRPI\General Correspondence\JSC09015.doc

Attachment: Modified Permit

cc: Jae-Soo Chang, Engineer, SHWMB  
Frank M. Gavas, Hydrologist, SHWMB  
Fulton J. Williams, Environmental Compliance Specialist, SHWMB

*Delaware's good nature depends on you!*

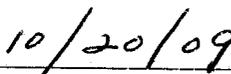


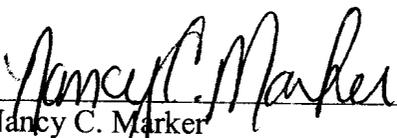
**Permit SW-05/01**  
**Permit Type: Industrial Waste Landfill**

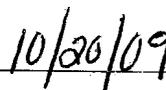
Effective Date: April 26, 2005  
Date Issued: April 26, 2005  
Last Modified: October 20, 2009  
Expiration Date: April 25, 2015  
Permittee: Delaware Recyclable Products, Inc.  
198 Marsh Lane  
New Castle, Delaware 19702

Pursuant to 7 Del. C., Chapter 60, Section 6003 and the *Delaware Regulations Governing Solid Waste*, approval of the Department of Natural Resources and Environmental Control is hereby granted to operate the Delaware Recyclable Products, Inc. industrial waste landfill located near Marsh Lane in New Castle, Delaware., subject to the terms and conditions of this permit. All terms and conditions of this permit are enforceable by the Department.

  
\_\_\_\_\_  
Jae-Soo Chang  
Engineer  
Solid & Hazardous Waste Management Branch  
(302) 739-9403

  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Nancy C. Marker  
Environmental Program Manager II  
Solid & Hazardous Waste Management Branch  
(302) 739-9403

  
\_\_\_\_\_  
Date

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**I. GENERAL CONDITIONS**

- A. Pursuant to Sections 4.2 and 6.0 of the *Delaware Regulations Governing Solid Waste* (DRGSW), the Department of Natural Resources and Environmental Control (Department) hereby issues Permit SW-05/01 to the Delaware Recyclable Products, Inc. (DRPI), for the continued operation and construction of the industrial waste landfill located near Marsh Lane in New Castle, Delaware. This permit incorporates the requirements of, and replaces permit SW-99/02.
- B. This permit applies to:
1. Construction of Cell 6 and all ancillary features outlined in the Engineering Report Volumes 3, 4, and 5 of the *Application to Construct and Operate Industrial Waste landfill for Cell 6 Delaware Recyclable Products Landfill, New Castle, Delaware*, prepared by Geosyntec Consultants dated October, 2004 and revised February 25, 2005.
  2. Construction required to extend the vertical limits of the DRPI landfill to 130 feet MSL.
  3. Geomembrane capping including:
    - a. Final geomembrane cap construction over cells 1, 2, 3, 4, 5, and 6.
    - b. Interim geomembrane capping of portions of cells 1, 2, and 3 as indicated in the Engineering Report Drawing 11 of 31.
    - c. Geomembrane capping of the approximately 14 acre area of isolated waste beyond the limits of cell 6.
  4. Operation and maintenance of the DRPI, including Cells 1, 2, 3, 4, 5, and 6.
  5. Environmental monitoring, recordkeeping, and reporting for DRPI.
  6. The final cover.
- C. This permit was issued in accordance with the following documents submitted by the DRPI:
1. DRPI letter of intent dated October, 2004 and revised February 25, 2005.
  2. A six volume Renewal Application for the Delaware Recyclable Products Landfill (DRPI), dated October, 2004 and revised February 25, 2005.
  3. Six volume *Application to Construct and Operate Industrial Waste landfill for Cell 6 Delaware Recyclable Products Landfill, New Castle, Delaware*, prepared by Geosyntec Consultants dated October, 2004 and revised February 25, 2005.
  4. *Design Plans, Application to Construct a Solid Waste Facility (Industrial Landfill), Cell 6 Delaware Recyclable Products, Inc., New Castle County, Delaware*; prepared by Geosyntec Consultants dated October, 2004 and revised February 25, 2005.
  5. All previously approved and applicable documents, applications or correspondence.
- D. This permit is issued subject to the following general conditions:
1. Construction and operations at DRPI shall be conducted in compliance with all federal, state, county, and municipal environmental statutes, ordinances, and

- regulations, including, but not limited to: *Delaware Regulations Governing Solid Waste*, *Delaware Regulations Governing Hazardous Waste*, *Delaware Regulations Governing the Control of Water Pollution*, *the Delaware Surface Water Quality Standards*, and *the Delaware Regulations Governing the Control of Air Pollution*.
2. Access to the DRPI site by unauthorized persons shall be prevented by barriers, fences, and gates, or other suitable means (DRGSW, Section 6.9.2.4). Access for the purpose of disposal of solid waste shall be limited to those times when an attendant is on duty and to those persons authorized to use the site for the disposal of solid waste. The Department may, at any reasonable time, enter the DRPI to verify compliance with the permit and the DRGSW. (7 Del. Code, Section 6024).
  3. This Permit may be revoked upon violation of any condition of the permit or any requirement of the DRGSW after notice and opportunity for hearing in accordance with 7 Del. Code, Chapter 60.
  4. Permit SW-05/01 incorporates the requirements of, and replaces Permit SW-99/02.
  5. Permit SW-05/01 shall expire no later than April 25, 2015.
  6. A copy of the most current version of this permit shall be maintained in both the scalehouse and the on-site office at DRPI.

## II. CONSTRUCTION

### A. Planning, design, and construction

1. The planning and design of Cell 6 shall be consistent with the DRGSW and the application package and drawings prepared by Geosyntec Consultants dated October, 2004 and revised February 25, 2005.
2. The landfill shall be constructed in accordance with the application package and drawings prepared by Geosyntec Consultants dated October, 2004 and revised February 25, 2005. Revisions to these documents related to leachate or landfill gas collection, transmission, storage or recirculation systems; construction within the limits of the landfill cell; groundwater management systems; or storm water management systems shall require Department approval in writing.
3. Construction Quality Assurance activities in Cell 6 and all constructed components shall be in accordance with the most recent *Construction Quality Assurance Plan* approved by the Department. DRPI shall report any deviation from the *Construction Quality Assurance Plan* to the Department's Solid and Hazardous Waste Management Branch no later than the next business day following discovery.
4. Prior to the installation of any geotextile or geomembrane at each subcell, DRPI shall provide the qualifications of the Geosynthetic Installer's Superintendent and Master Seamer to the Department.
5. DRPI shall submit final certification documentation to the Department in accordance with the approved *Construction Quality Assurance Plan*.
6. No waste may be placed into each newly lined area (subcell) of Cell 6 until DRPI has received written approval from the Department.

7. No waste other than the selected wastes described in Section III.G. of the permit may be placed onto the newly capped area of Cells 1, 2, and 3 until DRPI has received written approval from the Department.

B. Surface water management system

1. Sediment and stormwater control must comply with the Department's *Delaware Sediment and Stormwater Regulations*.
2. The run-off control system from the active portion of the landfill shall be designed to collect and control at least the water volume from a 25-year, 24-hour storm event.
3. Run-off from the areas receiving waste shall be channeled to the leachate collection system.
4. Run-off from closed cells shall be directed to stormwater detention basins or other sedimentation control devices approved by the Department.
5. Discharge from the detention basin shall be in compliance with all applicable federal, state, county, and local regulations.
6. Stormwater basins shall be cleaned as needed in order to maintain design capacity.

C. Final cover phased capping

1. A report for each phase or area capped shall be provided to the Department within 60 days of completion. The report shall certify that the phase was capped in accordance with the Design Specifications, Technical Specifications and the Construction Quality Assurance (CQA) plan contained in Engineering Report Volumes 3, 4, and 5, of the six volume *Application to Construct and Operate Industrial Waste landfill for Cell 6 Delaware Recyclable Products Landfill, New Castle, Delaware*, October, 2004 and revised February 25, 2005, prepared by Geosyntec Consultants.
2. Upon closure of the landfill or landfill cell, a capping system shall be installed that will control emissions of gas, promote vegetative cover, and minimize infiltration and percolation of water into, and prevent erosion of, the waste throughout the post-closure care period.
3. The capping system shall be designed in accordance with the DRGSW.
4. At the conclusion of all phases of capping on the DRPI landfill Cells 1 through 6, DRPI shall provide the Department a Certification Final Report. The Certification Final Report shall be completed by a third party CQA Consultant and submitted for Department review within 60 days after all phases of capping on the DRPI landfill Cells 1 through 6 have been completed.

**III. OPERATIONS**

- A. Operations at DRPI shall be conducted in accordance with this permit and the *Operation and Maintenance Plan* (the Operations Plan) revised August 2009.
- B. DRPI shall be operated in a manner that will preclude degradation of adjacent land, air, surface water, or ground water.

- C. Waste capacity. Consistent with the Solid Waste Management Facility Application (11/4/04), DRPI shall accept no more than 2400 tons of waste for disposal at the landfill each day.
- D. Staffing. Sufficient numbers and types of personnel, as specified in the Operations Plan, shall be available at the site to ensure capability for operation in accordance with the DRGSW and the Operations Plan.
- E. Equipment. Equipment necessary to ensure the operations of the landfill in accordance with the Operations Plan and the requirements of the DRGSW shall be maintained at the site by DRPI.
- F. Acceptable wastes. DRPI is permitted to accept an industrial waste stream consisting of the following materials:
  - 1. Construction/demolition debris including roofing materials, wood, metal, drywall, carpeting, upholstery, foam rubber, conduit, laminated wood products, rock, brick, concrete, ceramics, glass, asphalt paving, and incidental asphalt products.
  - 2. Dry waste as defined by the Delaware Regulations Governing Solid Waste. This includes plastic, rubber, lumber, trees, and vegetative matter.
  - 3. Non-hazardous industrial waste solids if approved by the Department. Waste characterization representative of the waste stream shall be required.
- G. Unacceptable wastes. DRPI shall not accept for disposal the following prohibited waste.
  - 1. Hazardous waste
  - 2. Asbestos
  - 3. Creosote treated materials
  - 4. Regulated infectious waste
  - 5. Licensed radioactive material (as described in the Delaware Radiation Control Regulations), and any radioactive material considered source, special nuclear, or by-product material as defined by Atomic Energy Act of 1954.
  - 6. Electrical transformers
  - 7. Putrescible wastes
  - 8. Municipal solid waste
  - 9. Municipal solid waste ash
  - 10. Liquid waste as restricted by 40 CFR Part 258.28.

Furthermore, until the installation and Department approval of the capping system shown on Drawing 11 of 31 in the Engineering Report, wastes placed over cells 1, 2, and 3 shall not include metals, containers, or industrial process wastes not specifically approved for those cells. (reference application drawing C5-P010).

- H. Inspection procedures
  - 1. DRPI shall inspect each incoming load at the scale and again at the working face of the

landfill. Loads shall be rejected based upon the following criteria:

- a. Otherwise acceptable loads containing small amounts of municipal solid waste, creosote treated materials, or sealed containers holding non-hazardous liquids may either be rejected or hand-sorted by DRPI to remove the unacceptable waste. If the load is rejected, a rejection notice shall be issued to the hauler and generator. If DRPI chooses to hand-sort, then the unacceptable waste recovered shall be given to the hauler for proper disposal and no rejection notice issued.
  - b. Loads containing small amounts of suspected, regulated asbestos containing material (less than the NESHAP threshold limit of one cubic yard) shall be rejected and a rejection notice issued to the hauler and generator. The load shall be adequately wetted prior to departure. In the event that the hauler accumulates 7 rejections for asbestos during one month or the generator accumulates 2 rejections for asbestos during one week, they shall be temporarily suspended from using the facility. In order to regain dumping privileges at DRPI, the suspended hauler or generator shall submit a written plan for Department approval detailing how their waste handling procedures will be modified to exclude asbestos.
  - c. Loads containing excessive amounts of suspected, regulated asbestos containing material (more than the NESHAP threshold limit of one cubic yard) shall be adequately wetted, isolated, and the Department notified (1-800-662-8802) immediately. DRPI shall issue a rejection notice to the hauler and to the generator and both shall be suspended from using the facility. In order to regain dumping privileges at DRPI, the suspended hauler or generator shall resolve all fines, penalties, and costs associated with the clean-up of the material, as well as submit a written plan for Department approval detailing how their waste handling procedures will be modified to exclude asbestos.
  - d. Loads containing infectious waste, regulated hazardous waste, radioactive waste, or electrical transformers shall be isolated and the Department notified immediately (1-800-662-8802). DRPI shall issue a rejection notice to the hauler and generator and both shall be suspended from using the facility. In order to regain dumping privileges at DRPI, the suspended hauler or generator shall resolve all fines, penalties, and costs associated with any clean-up of the material, as well as submit a written plan for Department approval detailing how their waste handling procedures will be modified to exclude these materials.
2. All materials accepted by DRPI for disposal shall be subject to inspection by the Department on-site compliance inspector who shall be present during the operating hours of the landfill. The Department has the right to modify this requirement temporarily if needed to avoid disrupting operations at the landfill. DRPI shall reimburse the Department (within 30 days of the date of an itemized statement submitted by the Department) for its reasonable costs incurred in hiring or retaining the Department Compliance Inspector (Consent Order dated 1/30/90).
- I. Scavenging. Scavenging on the landfill is prohibited.
  - J. Salvaging operations. Salvaging operations for materials including tree debris, stumps, and concrete is allowed.

- O. Litter control. Litter shall be controlled and collected in accordance with the Operations Plan. Controls shall include daily inspections for litter, compaction of waste upon receipt, use of fences and other barriers, and routine litter collection. Scattered and wind blown litter shall be collected as frequently as necessary to maintain an aesthetically desirable environment. DRPI shall prevent litter from migrating off-site. The DRPI personnel shall collect any off-site litter which has migrated from the landfill site.
- P. Dust and mud control. Dust control measures shall be provided to minimize potential nuisance dust to adjacent landowners. Site access and entrance roads shall be cleaned with water and swept as needed to minimize the potential for mud being tracked onto public roads.
- Q. Health and safety. DRPI shall maintain and comply with the *Health and Safety Plan* approved by the Department.
1. Employees at the site shall work under appropriate health and safety guidelines established by the Occupational Safety and Health Administration.
  2. Use of personal protective equipment shall be in accordance with 29 CFR Part 1910.132 as a minimum.
  3. First aid equipment shall be maintained and available in the scale house, in the pre-treatment building, and in the maintenance building.
  4. Emergency telephone numbers of nearby ambulance, hospital, police and fire services shall be prominently displayed by at least one telephone in each of the following on-site locations: the maintenance office, the scale house and the administrative office.
  5. Any confined space entry done by employees or contractors shall be done in accordance with 29 CFR Part 1910.146.
- R. Contingency. DRPI shall maintain a current emergency response plan (reference, *Operation and Maintenance Plan*). That plan shall include emergency contacts, reaction to spills, fires and other emergencies.
- S. Training. All employees (except the secretary) assigned duties at the DRPI shall receive, as a minimum, the training listed below. Unless otherwise specified by a nationally recognized training provider (for example, the American Red Cross as a training provider for First Aid), training shall be required initially and annually thereafter. Initial training for waste screening shall be completed within 60 days of hiring and all other initial training shall be completed within 180 days of hiring.
1. Operational and contingency procedures
  2. Waste screening
  3. Health and safety procedures
  4. Fire prevention and protection
  5. Emergency first aid
  6. CPR training

**IV. ENVIRONMENTAL MONITORING AND GROUNDWATER CONTROL SYSTEM MANAGEMENT**

A. Surface water management and monitoring

1. The DRPI shall maintain a surface water management system to prevent erosion of the waste and cover, prevent the collection of standing water, minimize surface water run-on into the waste, and minimize run-off from the waste. DRPI shall maintain coverage under the National Pollutant Discharge Elimination System (NPDES) for stormwater discharge.
2. Storm water management. The DRPI shall properly operate, manage and maintain all structures and basins designed to manage storm water and shall take all reasonable steps to minimize or prevent any discharge of pollutants into surface waters.
3. Semi-annually, during April and October, water quality samples shall be collected from Outfall 001 and Outfall 002. These samples shall be analyzed in the field for:

|                      |           |
|----------------------|-----------|
| Temperature          | pH        |
| Specific Conductance | Turbidity |

In addition, these samples shall be analyzed in the laboratory for the following indicator parameters:

|                        |                              |
|------------------------|------------------------------|
| pH                     | Ammonia                      |
| Total Suspended Solids | Total Petroleum Hydrocarbons |
| Chemical Oxygen Demand | Biological Oxygen Demand     |
| Iron                   | Lead                         |
| Copper                 | Zinc                         |
| Arsenic                | Manganese                    |
| Barium                 | Vanadium                     |
| Selenium               |                              |

After the analytical results from the 6 storm events (a three year period) have been received, the monitoring parameters with a non-detect result will be removed from the list following an evaluation and written notification made by the Department (Solid and Hazardous Waste Management Branch). Additional monitoring parameters may be removed at the Department's discretion if detectable parameters are below the levels of concern.

B. Groundwater monitoring

1. General requirements
  - a. All monitoring wells shall be maintained, and protected in accordance with the "Regulations Governing the Construction and Use of Wells".
  - b. Installation or abandonment of any well shall be performed in accordance with the "Regulations Governing the Construction and Use of Wells". The Department must

be notified and appropriate documentation submitted upon the installation or abandonment of any wells.

- c. Ground water monitoring shall be done in accordance with the approved *Updated Groundwater, Leachate and Stormwater Monitoring and Reporting Program Plan*. The following monitoring wells are currently included in that plan:

| Semi-annual Sampling          | Water Level Measurements Only Semi-Annually | Annual Sampling                        |
|-------------------------------|---|--|
| Shallow Zone Monitoring Wells | Shallow Zone Monitoring Wells               | Deep and Shallow Zone Monitoring Wells |
| C4-N1S                        | P-8S  | MW-4D(R)                               |
| C4-E1S(R)                     | MW-4S(R)                                    | MW-7D                                  |
| C5-N1S                        | MW-8S                                       | MW-9D                                  |
| C5-W1S(R)                     | MW-7S                                       | MW-101D                                |
| C5-W2S                        |   | DMW-2                                  |
| MW-101S                       |   | MW-102S                                |
|                               |   | DMW-1*                                 |
|                               |   | MW-1S*                                 |

\* Wells MW-1S and DMW-1 will be added to the monitoring program following construction of Cell 6-2.

MW – Monitoring Wells  
 C – Cell, N – North, W – West  
 D –Deep, S –Shallow, R – Replacement

2. Water level measurement

- a. Semi-annually, during April and October, DRPI shall measure water levels in all monitoring wells referenced above. Maps shall be prepared for each aquifer showing wells drilled in the aquifer and water elevations in each well and the ground water control system. Contour lines shall be drawn showing the potentiometric surface of each aquifer and the directions of groundwater flow. Maps shall include the outline of each active and closed subcell on DRPI property. This information shall be submitted as part of the annual report.

3. Groundwater monitoring

- a. Frequency

- (1) Semi-Annually, during April and October, DRPI shall collect groundwater samples from shallow zone monitoring wells C4-N1S, C5-N1S, C5-W1S(R), C5-W2S, MW-101S, C4-E1S(R), for laboratory analysis. The resulting data shall be reported to the Department within 60 days of the sampling date.
- (2) Annually, during April, DRPI shall collect groundwater samples from deep zone monitoring wells MW-4D(R), MW-7D, MW-9D, MW-101D, and DMW-2, MW-102S, MW-1S\* and DMW-1\* in addition to the wells noted in Condition 3.a.(1) above for laboratory analysis. The resulting data shall be reported to the Department within 60 days of the sampling date.
- (3) Wells MW-1S and DMW-1 shall be incorporated in the analytical portion of the groundwater sampling program upon completion of Cell 6-2.

b. Analytical requirements

- (1) DRPI Shall measure for the following field parameters in all groundwater samples at the time of collection:

|                      |             |           |
|----------------------|-------------|-----------|
| Specific Conductance | Temperature | pH        |
| Dissolved Oxygen     | REDOX       | Turbidity |

- (2) All groundwater samples shall be laboratory analyzed for the following parameters:

|                      |                      |                        |
|----------------------|----------------------|------------------------|
| Magnesium            | Sodium               | Calcium                |
| Potassium            | Chloride             | Sulfate                |
| pH                   | Alkalinity           | Chemical Oxygen Demand |
| Total Organic Carbon | Specific Conductance | Total Dissolved Solids |
| Ammonia-Nitrogen     | Nitrate-Nitrogen     | Dissolved Iron         |
| Dissolved Manganese  | Barium               | Lead                   |
| Arsenic              | Vanadium             |                        |

- (3) All samples shall be collected in a manner that minimizes sample turbidity. Any sample collected to be analyzed for metals with turbidity of greater than 10NTU shall be field filtered.

C. Groundwater control system management and performance monitoring

1. Groundwater control system management

- a. Weekly inspection shall be conducted and documented by DRPI to verify proper functioning of all ground water control system components.
- b. The system shall be cleaned and maintained in accordance with the *Operation and Maintenance Plan* or more frequently if required to maintain proper functioning.
- c. The system shall be designed and operated to maintain a five-foot separation

up all leachate spills immediately or within a time frame approved by the Department on a case-by-case basis.

- b. The leachate pretreatment facility shall be operated and maintained in accordance with the Department approved operations and maintenance manual.
- c. Weekly inspections shall be conducted and documented by DRPI to verify proper functioning of the leachate collection system, leachate force main, and leachate pretreatment facility components. To ensure proper functioning, the pumps shall be inspected every operating day. The results of the inspection shall be recorded in the facility log.
- d. The system shall be cleaned and maintained in accordance with the *Operation and Maintenance Plan* approved by the Department or more frequently if required to maintain proper functioning.
- e. The system shall be designed, operated, and maintained so that there is no more than one foot of head on the liner outside of the sump.
- f. DRPI shall prevent leachate seeps from side slopes.
- g. DRPI shall maintain all necessary permits and approvals for leachate management. Disposal must be done in a manner which does not cause adverse environmental impact.

2. Leachate monitoring

- a. The leachate monitoring system shall be capable of measuring the rate and quantity of leachate flow through each leachate pump on a weekly basis, and shall be capable of sampling the leachate at each leachate riser vault.
- b. Leachate monitoring shall be done in accordance with the approved *Groundwater, Surface Water, and Leachate Monitoring and Reporting Program Plan*.
- c. DRPI shall measure and record the depth of leachate and the quantity of leachate pumped from each leachate sump each operating day.
- d. Semiannually, in April and October, DRPI shall measure and record the leachate level in every leachate collection system sump.
- e. Semiannually, in April and October, a leachate sample shall be collected from cells 3, 4A, 5A, and 6-1A. The data shall be submitted to the Department within 60 days of the sampling date.

DRPI or DRPI's contractor shall collect leachate samples from each of the cells listed above. At the time of the collection, the DRPI shall measure the following field parameters of the samples:

|                      |             |           |
|----------------------|-------------|-----------|
| Specific Conductance | Temperature | pH        |
| Dissolved Oxygen     | REDOX       | Turbidity |

Additionally, DRPI or DRPI's contractor shall analyze these samples in the laboratory for the following parameters:

|                      |                      |                        |
|----------------------|----------------------|------------------------|
| pH                   | Alkalinity           | Chemical Oxygen Demand |
| Total Organic Carbon | Specific Conductance | Total Dissolved Solids |
| Lead                 | Magnesium            | Sodium                 |

|                |                     |                  |
|----------------|---------------------|------------------|
| Calcium        | Potassium           | Chloride         |
| Sulfate        | Ammonia-Nitrogen    | Nitrate-Nitrogen |
| Dissolved Iron | Dissolved Manganese | Barium           |
| Arsenic        | Vanadium            |                  |

3. Spill contingency
  - a. DRPI shall immediately notify the Department regarding any incident of a leachate spill and the action taken to mitigate any impact and remediate any contamination caused by the spill.
  - b. DRPI shall monitor all leachate collection system flowmeters, pumps, controls, recording devices and storage tanks each operating day to ensure proper functioning and to record flows. DRPI shall inspect for leakage from valves, flowmeters, connections at riser locations, and storage tanks each operating day. The results of the monitoring and inspections shall be recorded and made available to the Department within a reasonable time upon request.
4. Cleaning and assessment of the system: DRPI shall ensure that collection pipes are cleaned annually with a self propelled, high pressure jetting system. DRPI shall be responsible for the identification, assessment, and reporting of all blockages encountered as well as identification of any areas found to be inaccessible during the cleanings.
5. Safety. On-site personnel shall not enter any confined space without taking the appropriate confined space entry precautions.

## V. ANALYTICAL METHODS

### A. Test methods

Test methods used for ground water, surface water, leak detection system, and leachate samples shall be those described in the most current legal edition of EPA Publication Number SW-846. If SW-846 does not contain a test method for a required parameter, that parameter shall be tested according to methods described in the most recent edition of the EPA Publication "Methods of Chemical Analysis for Water and Wastes" or of Standard Methods for Examination of Water and Wastewater. All samples shall be taken using quality assurance and quality control procedures that ensure samples are representative of actual field conditions.

## VI. GAS CONTROL

- A. The control and management of landfill gas must be in conformance with the *Delaware Regulations Governing the Control of Air Pollution* as well as the DRGSW. The operation, maintenance, and monitoring of the gas extraction and flare systems shall be done in accordance with the current permit(s) issued pursuant to the *Delaware Regulations Governing the Control of Air Pollution*.

- B. The DRPI shall operate and maintain the gas extraction system and flare to control odors. Malodorous gaseous emissions from the landfill shall be controlled to the extent that there is no perceivable landfill odor beyond the property boundary. DRPI shall maintain a permit for the operation of the extraction system and flare in accordance with the *Delaware Regulations Governing the Control of Air Pollution* and the DRGSW.
- C. Landfill gas migration
1. Semi-annually, during April and October, DRPI shall monitor for gas (percent LEL) outside the perimeters of the waste (including cells 1, 2, and 3) along the site boundary as well as in all on-site structures that are routinely occupied. Sampling shall be conducted in accordance with the Department approved *Operation and Maintenance Plan*. The concentration of landfill gas in facility structures (except gas recovery systems) and at the facility boundary shall not exceed 25% of the Lower Explosive Limit (LEL).
  2. Semi-annually, during April and October, DRPI shall test each gas probe for the presence of ground water. If ground water is encountered then the water elevation in that probe shall be measured and recorded.
- D. Landfill gas odor control system. The landfill gas control system shall be monitored in accordance with the Department approved *Operation and Maintenance Plan*, the *DRPI LFG Odor Control System - Operations Plan* (appendix 6B of the application), and the current permit issued by the Department's Air Resources Section. Monitoring of the system shall include the following:
1. Monthly monitoring of the extraction system. Monitoring parameters shall include:
    - a. Gas composition, including methane, carbon dioxide, oxygen, and balance gas.
    - b. Pressure (vacuum).
    - c. Gas flow.
    - d. Gas temperature.
    - e. Liquid levels in the condensate handling system.
  2. Weekly monitoring of the blower/flare system. Monitoring parameters shall include:
    - a. Gas composition, including methane, carbon dioxide, oxygen, and balance gas.
    - b. Inlet pressure.
    - c. Outlet pressure.
    - d. Gas flow.
    - e. Flare temperature.
    - f. Pressure drops across water knockouts and flame arresters.
    - g. Liquid level in condensate knockout.
  3. Accelerated monitoring, in accordance with the Operations Plan, shall be implemented if significant odors are noted or if conditions require significant changes or repairs to the extraction system or blower/flare system.

## VII. REPORTING

### A. Financial assurance.

1. DRPI must provide assurance that the financial costs associated with closure, post-closure care, and corrective action can be met throughout the life of the facility until released from these requirements by the Department after demonstrating successful completion of compliance with the requirements for each of these activities. DRPI has agreed to use a letter of credit to provide these assurances and shall meet the following requirements for that mechanism:
2. The issuing financial institution must be an entity which has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a Federal or State of Delaware Agency.
3. The letter of credit shall be worded as prescribed by the Department.
4. DRPI shall also submit an accompanying letter referring to the letter of credit by number and listing the following information:
  - a. Complete name and address of facility.
  - b. Complete name and address of issuing institution and point of contact.
  - c. Amount and purpose of funds assured.
5. DRPI shall submit the letter of credit and accompanying letter for Department approval prior to receiving solid waste in any new cell and prior to the cancellation of the existing letter of credit.
6. The letter of credit must be irrevocable and issued for a period of at least one year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless, at least 120 days before the current expiration date, the issuing institution notifies the Secretary of the Department, the Solid and Hazardous Waste Management Branch, and the owner/operator of a decision not to extend the expiration date or renew the letter of credit.
7. Once the financial institution notifies the Solid Waste Management Branch of its intent not to extend the letter of credit, DRPI shall, within 90 days, provide alternate financial assurance. The Department may draw on the letter of credit if DRPI has not provided alternative financial assurance within 90 days.
8. Following a determination by the Secretary of the Department that the owner has failed to perform closure, post-closure care, or corrective action when required to do so, the Department may draw on the letter of credit.
9. Annually, no later than April 30th, DRPI's parent company, Waste Management, shall submit to the Department, their annual (financial) report to include form 10K.
10. Waste Management, Inc. shall notify the Department by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), USC, naming Waste Management, Inc. or DRPI as debtor, within 10 days after commencement of the proceeding.

- B. Annual reporting. Annually, no later than February 28<sup>th</sup>, DRPI shall submit to the DNREC, a report summarizing facility operations for the preceding calendar year. The report shall describe and summarize all solid waste disposal, environmental monitoring, and construction activities conducted for that period (DRGSW, section 6.9.4.). The report shall

include:

1. The weight and types of wastes landfilled. Industrial wastes shall be reported by type, approval number, generator, and weight.
2. The weight of materials recovered for reuse/recycling.
3. The estimated remaining landfill capacity.
4. An updated estimate of closure and post-closure care costs for the facility.
5. Verification that the mechanism used for financial assurance is still valid (in accordance with section VII of this permit).
6. Any intentional or accidental deviations from the approved Operations Plan or this permit.
7. All construction or corrective work conducted on the site in accordance with approved plans or to achieve compliance with these regulations.
8. A list of all haulers and generators that had been suspended from DRPI during the calendar year to include the dates and category of violations.
9. A list of haulers and generators that had received any rejections for transporting small amounts of asbestos and the dates of those rejections.
10. A combined ground water monitoring, gas monitoring, groundwater control system performance monitoring, and leachate collection system monitoring report signed by a Professional Geologist registered in Delaware. This report shall include at least the following information:
  - a. Tabulation of all data listed below from the past and all preceding years since the issuance of this permit. All data should be submitted on machine readable media in a format acceptable to the Department. Data for at least the last three years shall also be submitted on paper (unless otherwise noted below). Data submitted shall include:
    - (1) Leachate volumes collected and liquid levels each week from each operating sump (machine readable media only).
    - (2) Monthly totals for leachate volumes from each cell (i.e. Cells, 3, 4, 5, and 6).
    - (3) Leachate analytical results including field parameters
    - (4) Groundwater control volumes collected and liquid levels each week from each operating sump as well as all other groundwater control system liquid measurements made during the past year (machine readable media only).
    - (5) Monthly totals for ground water control system volumes from each system (i.e. Cells 4 and 5).
    - (6) Groundwater control system liquid analytical results including field parameters.
    - (7) Groundwater elevation and quality data including field parameters.
    - (8) Monthly rainfall totals.
    - (9) Monitoring data from landfill gas odor control system.
    - (10) Monitoring data from landfill gas migration monitoring.
  - b. Graphical presentations (quality versus time plots) of leachate, groundwater, and groundwater control system quality parameters pH, TDS, COD, TOC, chloride, sulfate, ammonia-nitrogen, and iron.
  - c. Graphical presentations (volume versus time plots) of total monthly flow from each

- sump of the leachate collection system and the ground water control system. Rainfall data shall also be plotted on each graph.
- d. Potentiometric maps of for each aquifer for each groundwater monitoring event for the past year as per Section IV.A.5. of this permit.
  - e. A discussion of landfilling activities during the past year relevant to operation of the groundwater control system, the leachate collection system and the gas collection system including at least the following information:
    - (1) Extent of the groundwater control system at the start of the previous year and a description and the date of any additions to the system and a description and the date of any significant maintenance or cleaning of the system during the previous year.
    - (2) Extent of the leachate collection system at the start of the previous year and a description and the date of any additions to the system and a description and the date of any significant maintenance or cleaning of the system during the previous year.
    - (3) Extent of final cover at the start of the previous year and a description and the date of any additions during the previous year and a description and the date of any significant maintenance or repairs conducted during the previous year.
    - (4) Extent of the gas collection system at the start of the previous year and a description and the date of any additions to the system during the previous year and a description and the date of any significant maintenance or repairs conducted during the previous year.
    - (5) The active subcell at the start of the previous year and the date on which landfilling began in any additional subcells.
    - (6) A description of any major construction activities during the previous year that could have potentially affected groundwater levels such as construction of a new subcell.
  - f. A discussion of the groundwater monitoring results, including whether the results indicate a contaminant release from the landfill to ground water or surface water.
  - g. A discussion of the groundwater control system performance results, including whether the results indicate that the system is maintaining the water table five feet below the base of the liner and whether the results indicate that the liner is performing within design specifications.
  - h. A discussion of the leachate collection system results, including whether the results indicate that the system is performing within design specifications.
  - i. A discussion of the landfill gas odor control system (i.e. extraction system, flare, and blower) monitoring results including DRPI's appraisal of whether or not the system is performing within design specifications.
  - j. A discussion of the landfill gas monitoring results (for migration).
  - k. A discussion of sampling and laboratory QA/QC results.
  - l. Recommendations for future monitoring and for maintenance or modifications needed in the monitor wells, groundwater control collection system, gas collection system and/or the leachate collection system as necessary.

C. Additional reports

1. The results of weekly monitoring of the blower/flare system as well as monthly monitoring of the extraction system (wellfield) shall be submitted to the Department semi-annually.
2. DRPI shall inform the Department in writing if it is unable to comply with any of the monitoring or reporting requirements.
3. Upon discovery, DRPI shall report to the Department any intentional or accidental deviation from any approved plan.
4. DRPI shall provide copies of each rejection notice to the Department as well as any notification of suspension issued to a generator or hauler.
5. Semi-annual monitoring results for groundwater, groundwater control system performance monitoring, leachate monitoring, and landfill gas migration monitoring done in accordance with the requirements of Section IV of this permit shall be submitted by DRPI on electronic media (archival original plus 2 copies). The data and image files shall be provided in a format acceptable to the Department.

D. Emergency reporting

1. DRPI shall immediately notify the Department in the event of any of the following occurrences. Written notification (to include narrative, response and follow-up required) shall be submitted to the Department within 5 business days.
  - a. A leachate spill exceeding 10 gallons.
  - b. A fire or explosion involving the landfill or its control systems.
  - c. Loads containing excessive amounts of category II asbestos (more than the NESHAP threshold limit of one cubic yard).
  - d. Loads containing regulated hazardous waste, infectious waste, radioactive waste, or electrical transformers.
  - e. Gas levels of 25% LEL (Lower Explosive Limit) or greater detected at the facility boundary or within any structure which is routinely occupied.
  - f. Any violation of the Wastewater Discharge Permit issued by New Castle County.
  - g. Any violation of the permit issued pursuant to the Regulations Governing the Control of Air Pollution.
  - h. Damage to the landfill liner system.
2. If any event listed in Section VII.D.1 of this permit occurs during business hours, DRPI should report to the Department's Solid and Hazardous Management Branch by telephone to 302-739-9403. At all other times report is to be made to the Division of Air and Waste Management's TOLL-FREE 24-HOUR LINE 1-800-662-8802.
3. The DRPI shall submit a written notification to the Department no later than: (i) the next business day following any event requiring "Emergency Reporting"; or (ii) on a date mutually agreed upon between DNREC and DRPI at the time of the event. The notification shall include the following:
  - a. Date and time of occurrence/discovery.
  - b. Date and time of reporting.
  - c. Agencies notified.
  - d. Materials and quantities involved.

- e. Narrative describing how the incident occurred and the actions taken by DRPI and other response personnel.
- f. Report of injuries/damage.
- g. Proposal for follow-up or remedial actions required and schedule.

E. Assessment of corrective measures

1. DRPI shall notify DNREC within seven (7) days after verified analytical data has confirmed that a release has taken place. Confirmation samples shall be collected from the appropriate monitoring points within 14 days of receipt of written approval by the Department. These samples shall be analyzed under a priority schedule for the indicator parameters and any other parameters deemed appropriate by DRPI and DNREC. DRPI shall notify DNREC of the results of the confirmation sampling within seven (7) days of receipt of the results.
2. If confirmation sampling does not indicate that a release has taken place, another round of sampling shall take place to determine whether the results of the analysis from the first or second sampling events were anomalous. This re-sampling event shall take place within two (2) weeks of DRPI sending written notification to the Department of their intent to re-sample. The samples shall be analyzed under a priority schedule. DRPI shall notify DNREC of the results of the re-sampling within seven (7) days of receipt of the results.
3. If the re-sampling indicates that no release has taken place, no further action shall be taken by the Department, and monitoring of the sampling location(s) shall be returned to its/their normal monitoring schedule. If the confirmation or re-sampling round of sampling does indicate that a release has taken place, DRPI shall perform an assessment of corrective measures within ninety (90) days of confirmation of the release. This assessment shall include:
  - a. Identification of the nature and extent of the release (which may require construction and sampling of additional wells, geophysical surveys or other measures).
  - b. Re-assessment of contaminant fate and potential contaminant receptors (wells and/or receiving streams).
  - c. Evaluation of feasible corrective measures to:
    - (1) Prevent exposure to potentially harmful levels of contaminants (exceeding performance standards).
    - (2) Reduce, minimize or prevent further contaminant releases.
    - (3) Reduce, minimize or prevent the off-site migration of contaminants.

## VIII. RECORDKEEPING

### A. Recordkeeping

1. Records concerning design and construction of the landfill and its components; monitoring, testing, or analytical data specified by the Department; as well as weight of wastes received shall be maintained by DRPI until the end of the post-closure period (DRGSW, section 6.9.3).
2. Records of all rejections, including copies of rejection notices, shall be maintained by DRPI for a minimum of three years.
3. Copies of field notes for each sample analyzed as well as laboratory data sheets for each sample analyzed shall be kept on file by DRPI and shall be available for inspection by representatives of the Department with reasonable notice.
4. DRPI shall maintain copies of all inspections required by the Operations Plan and this permit and those documents shall be available for review by the Department.

## IX. LANDFILL CAPPING SYSTEM

### A. Capping requirements

1. Upon closure of the landfill or landfill cell, a capping system shall be installed that will control emissions of gas, promote vegetative cover, and minimize infiltration and percolation of water into, and prevent erosion of, the waste through-out the post-closure care period.
2. The capping system shall be designed in accordance with Section 6.8 of the DRGSW and shall consist of at least the following components.
  - a. A final grading layer on the waste, consisting of at least six inches of soil, to attain the final slope and provide a stable base for subsequent system components. Operational and intermediate cover material may be used for this purpose.
  - b. An impermeable layer, consisting of at least:
    - (1) a 30 mil geomembrane underlain by an optional geotextile, or
    - (2) 24 inches of clay with a hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec or thickness of equivalent material having hydraulic conductivity less than  $1 \times 10^{-7}$  cm/sec, such thickness shall be determined based on the hydraulic conductivity of 24 inches of clay with a hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec.An alternative may be used for the impermeable layer with prior approval of the Department.
  - c. A final cover consisting of:
    - (1) Eighteen (18) inches of soil to provide rooting depth and moisture for plant growth, and
    - (2) Six (6) inches of topsoil or other material approved by the Department to support the proposed vegetation; or
    - (3) A suitable layer of alternative material to assure adequate rooting depth and moisture retention to support the proposed vegetation.
3. The capping system shall be in place 180 days following final waste disposal activity.
4. The capping system shall extend beyond the edge of the lined area.

B. Final slopes.

1. The grades of the final slope shall be constructed in accordance with the following minimum standards:
  - a. The final grades of the top slope, after allowing for settlement and subsidence, shall be designed to promote run-off.
  - b. The final grades of the side slopes shall be a maximum three horizontal to one vertical (3H: 1V).
2. The top and side slopes shall be maintained to prevent erosion of the capping system, and to ensure complete vegetative cover.

**X. CLOSURE AND POST-CLOSURE CARE**

- A. Subcells shall be developed in sequence as described in the phasing development drawings of the application.
- B. DRPI shall notify the Department at least 30 days prior to the date on which each subcell receives its last load of waste.
- C. DRPI shall notify the Department at least 30 days prior to commencing closure activities.
- D. Long-term intermediate cover (cover exposed for greater than 30 days) used on the subcells prior to final capping shall be stabilized with vegetation or other erosion control material approved by the Department.
- E. All components of the cap, including the gas control system shall be constructed in accordance with the *Construction Quality Assurance Plan*, closure plan, and closure schedule approved by the Department. Final certification documentation shall be completed by a third party CQA Consultant and submitted for Department review within 60 days after the capping has been completed.
- F. The capping system shall be in place no later than 180 days following final waste disposal activity.
- G. Post-closure care shall be in accordance with the DRGSW. Post-closure care shall be in accordance with the post-closure care permit and the approved post-closure care plan approved by the Department.
- H. Post-closure land use. The DRPI shall implement the post-closure land use identified in Volume 1, Part III, Page 6, Item I, 1.C., of the permit application, only after the Department has approved all final plans for compatibility with landfill system components and cap system integrity prior to construction.

- I. Notice in deed to the property. DRPI shall record a notation on either the deed to the facility property or some other instrument that is normally examined during the title search, that will in perpetuity notify any potential purchaser of the property that the land has been used as a solid waste disposal site, and the use of the land is restricted under the *Delaware Regulations Governing Solid Waste*.

**Permit Modification Synopsis:**

April 26, 2005: Permit SW-05/01 was issued.

October 31, 2006: The permit was modified to require DRPI to suspend any transporter which accumulates 7 rejections for asbestos in one month and any generator which accumulates 2 rejections for asbestos in one week. The modification also included a change in an annual reporting requirement so that DRPI shall report a list of any haulers and generators that had received any rejections for asbestos during the past year. The modification was considered minor in accordance with Section 4.1.7 of the DRGSW.

August 30, 2007: Section II.A.2 of the permit was modified to include a provision to approve of a plan to construct a groundwater interceptor trench and barrier wall in the vicinity of the DRPI landfill. The installation of the groundwater management system is to control groundwater mainly around the Cell 6 area. The modification was considered minor in accordance with Section 4.1.7 of the DRGSW.

October 20, 2009: Environmental monitoring requirements in Section IV of the permit were modified to reflect changes in the facility's *Groundwater, Surface Water, and Leachate Monitoring and Reporting Program Plan* corresponding to the new cell construction. The modification included addition of some extra monitoring parameters to the requirements as DRPI was approved to accept petroleum coke gasifier slag from the Delaware City Refinery. The modification also included correction of the old numbering of the DRGSW Conditions cited in the permit to address the new numbering system of the DRGSW.