

#### IV. Administrative Requirements

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is not a “significant regulatory action” and therefore is not subject to review by the Office of Management and Budget. For this reason, this action is also not subject to Executive Order 13211, “Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use” (66 FR 28355, May 22, 2001). This action merely makes a determination based on air quality data and does not impose any requirements. Accordingly, the Administrator certifies that this rule will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.). Because this rule does not impose any enforceable duty, it does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104–4). This rule also does not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes, as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), nor will it have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132 (64 FR 43255, August 10, 1999), because it merely approves makes a determination based on air quality data, and does not alter the relationship or the distribution of power and responsibilities established in the Clean Air Act. This rule also is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997), because it is not economically significant.

The requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) do not apply. As required by section 3 of Executive Order 12988 (61 FR 4729, February 7, 1996), in issuing this rule, EPA has taken the necessary steps to eliminate drafting errors and ambiguity, minimize potential litigation, and provide a clear legal standard for affected conduct. EPA has complied with Executive Order 12630 (53 FR 8859, March 15, 1988) by examining the takings implications of the rule in accordance with the “Attorney General’s Supplemental Guidelines for the Evaluation of Risk and Avoidance of

Unanticipated Takings” issued under the executive order. This rule does not impose an information collection burden under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.).

The Congressional Review Act, 5 U.S.C. section 801 et seq., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a “major rule” as defined by 5 U.S.C. section 804(2). This rule will be effective September 21, 2001.

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by October 22, 2001. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

#### List of Subjects in 40 CFR Part 81

Environmental protection, Air pollution control, Carbon monoxide, National parks, Reporting and record keeping requirements, Wilderness areas.

Dated: July 31, 2001.

**Charles E. Findley,**

*Acting Regional Administrator, Region 10.*

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#### ENVIRONMENTAL PROTECTION AGENCY

##### 40 CFR Part 258

[FR–7039–1]

RIN 2090–AA22

#### Project XL Site-specific Rulemaking for Buncombe County Landfill, Alexander, Buncombe County, North Carolina

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** EPA is promulgating today a site-specific rule proposed on April 16, 2001, to implement a project under the Project XL program. The rule provides site-specific regulatory flexibility under the Resource Conservation and Recovery Act (RCRA), for the Buncombe County Solid Waste Management Facility, Alexander, Buncombe County, North Carolina (“Buncombe County”). The terms of the XL project are defined in a Final Project Agreement (FPA) signed by Buncombe County, the State of North Carolina, and EPA on September 18, 2000. Today’s rule is applicable only to the Buncombe County Solid Waste Management Facility, to facilitate implementation of the XL project to use certain bioreactor techniques at its municipal solid waste landfill (MSWLF), specifically, the recirculation of landfill leachate, with the possible addition of water, to accelerate the biodegradation of landfill waste, to decrease the time it takes for the waste to reach stabilization in the landfill, and to promote recovery of landfill gas. The principal objective of this XL Project is to demonstrate that leachate can safely be recirculated over a liner that differs from the liner prescribed in EPA MSWLF regulations.

Under existing regulations, leachate recirculation in Cells 1 and 2 is authorized because those cells were constructed using the prescribed composite liner. Today’s rule will allow leachate recirculation over an alternative liner for Buncombe County landfill Cells 3 through 10. It is conditioned on Buncombe County’s implementation of the design in today’s rule. The landfill liner design for Buncombe County will be enforceable in the same way that current RCRA standards for a landfill are enforceable to ensure that management of nonhazardous solid waste is performed in a manner protective of human health and the environment. Today’s rule will not in any way affect the provisions or applicability of any existing or future regulations. EPA retains its full range of enforcement options under this rule.

**DATES:** This regulation is effective on August 22, 2001. The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register as of August 22, 2001.

**ADDRESSES:** *Docket:* Three dockets contain supporting information used in developing this final rule, and are available for public inspection and copying at the EPA's docket office located at Crystal Gateway, 1235 Jefferson Davis Highway, First Floor, Arlington, Virginia. The public is encouraged to phone in advance to review docket materials. Appointments can be scheduled by phoning the Docket Office at (703) 603-9230. Refer to RCRA Docket Number F-2000-BCLP-FFFFF. The public may copy a maximum of 100 pages from any regulatory docket at no charge. Additional copies are \$0.15 per page. Project materials are also available for review on the world wide web at <http://www.epa.gov.projectxl/> and in the regional office where the project is located.

**FOR FURTHER INFORMATION CONTACT:** Ms. Michelle Cook, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street SW., Atlanta, GA 30303 or Ms. Sherri Walker, Office of Environmental Policy Innovation, U.S. EPA, 1200 Pennsylvania Ave., NW. (1807), Washington DC 20460. Further information on today's action may also be obtained on the world wide web at <http://www.epa.gov/projectxl/>. Questions to EPA regarding today's action can be directed to Ms. Cook at (404) 562-8674 [cook.michelle@epa.gov](mailto:cook.michelle@epa.gov) or Ms. Walker at (202) 260-4295, [walker.sherri@epa.gov](mailto:walker.sherri@epa.gov).

#### SUPPLEMENTARY INFORMATION:

##### Outline of Today's Document

The information presented in this preamble is arranged as follows:

- I. Authority
- II. Background
  - A. What did EPA Propose and What Comments were Received?
  - B. What is Project XL?
  - C. What Are Bioreactor Landfills?
- III. Overview of the Buncombe County Landfill XL Project
  - A. Description of the Project
  - B. What Are the Environmental Benefits Anticipated Through Project XL?
  - C. How Have Various Stakeholders Been Involved in this Project?
  - D. How Will this Project Result in Cost Savings and Paperwork Reduction?
- IV. What Regulatory Changes Are Being Made to Implement this Project?
  - A. Existing Liquid Restrictions for MSWLFs (40 CFR 258.28)
  - B. Site-Specific Rule
    1. Design Specifications

2. Operational Requirements
3. Monitoring and Reporting
4. Duration of Authority
- V. Additional Information
  - A. Why is this Rule Immediately Effective?
  - B. How Does this Rule Comply with Executive Order 12866: Regulatory Planning and Review?
  - C. Is a Regulatory Flexibility Analysis Required?
  - D. Is an Information Collection Request Required for this Rule Under the Paperwork Reduction Act?
  - E. Does this Rule Trigger the Requirements of the Unfunded Mandates Reform Act?
  - F. How Does the Congressional Review Act Apply to this Rule?
  - G. How Does this Rule Comply with Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks?
  - H. How Does this Rule Comply With Executive Order 13132: Federalism
  - I. How Does this Rule Comply with Executive Order 13175: Consultation and Coordination with Indian Tribal Governments?
  - J. How Does this Rule Comply with the National Technology Transfer and Advancement Act?
  - K. Does this Rule Comply with Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use?

##### I. Authority

This rule is published under the authority of sections 1008, 2002, 4004, and 4010 of the Solid Waste Disposal Act of 1970, as amended by the Resource Conservation and Recovery Act, as amended (42 U.S.C. 6907, 6912, 6945, and 6949).

##### II. Background

###### A. What Did EPA Propose and What Comments Were Received?

EPA proposed to amend 40 CFR 258.28(a) by adding a new paragraph (a)(3) to refer to a new section of the rules, § 258.41, 66 FR 19403, April 16, 2001). However, another Project XL rulemaking, published in the **Federal Register** on August 13, 2001 (66 FR 42441 for Yolo County Rulemaking) already has effected these proposed changes. Therefore, today's rulemaking is limited to that portion of EPA's proposed rule which proposed to add a new § 258.41(a). This new § 258.41(a) applies to the Buncombe County Solid Waste Management Facility in Buncombe County, North Carolina and allows Cells 1-10 of the landfill to utilize recirculation of leachate supplemented with river water, as long as each cell meets the design criteria, operational requirements, monitoring and other requirements set forth in § 258.41(a). See Section IV of this preamble for full description of the

regulatory relief provided for this project.

Today's rule is being finalized with one other change, based on the one comment EPA received during the comment period on the proposal. The comment was from the American Society of Testing and Materials (ASTM), which pointed out that the proposed rule referenced an earlier version of their consensus voluntary standards ASTM D2216. The final rule correctly references the latest standard ASTM D2216-98.

Other than the removal of the proposed additions of new §§ 258.28(a)(3) and 258.41(b), which have already been effected, as noted above, no changes have been made to the proposed rule.

###### B. What Is Project XL?

Project XL is an EPA initiative to allow regulated entities to achieve better environmental results at less costs. Project XL—"eXcellence and Leadership"—was announced on March 16, 1995 as a central part of the National Performance Review and EPA's efforts to reinvent environmental protection. See 60 FR 27282 (May 23, 1995). Specifically, Project XL gives a limited number of regulated entities the opportunity to develop their own pilot projects and alternative strategies to achieve environmental performance that is superior to what would be achieved through compliance with current and reasonably anticipated future regulations. These efforts are crucial to the Agency's ability to test new regulatory strategies that reduce regulatory burden and promote economic growth while achieving better environmental and public health protection. The Agency intends to evaluate the results of this and other XL projects to determine which specific elements of the projects, if any, should be more broadly applied to other regulated entities for the benefit of both the economy and the environment.

Project XL is intended to allow EPA to experiment with untried, potentially promising regulatory approaches, both to assess whether they provide benefits at the specific facility affected, and whether they should be considered for wider application. Such pilot projects allow EPA to proceed more quickly than would be possible when undertaking changes on a nationwide basis. EPA may modify rules, on a site specific or state specific basis, that represent one of several possible policy approaches within a more general statutory directive, so long as the alternative being used is permissible under the statute.

Adoption of such alternative approaches or interpretations in the context of a given XL project is not an indication that EPA plans to adopt that interpretation as a general matter or even in the context of other XL projects. It would be inconsistent with the forward looking nature of these pilot projects to adopt such innovative approaches prematurely on a widespread basis without first determining whether they are viable in practice and successful for the particular project that embody them. These pilot projects are not intended to be a means for piecemeal revision of entire programs.

EPA believes that adopting alternative policy approaches and interpretations, on a limited site specific or state specific basis and in connection with a carefully selected pilot project is consistent with the expectations of Congress about EPA's role in implementing the environmental statutes (provided that the Agency acts within the discretion allowed by the statute). Congress' recognition that there is a need for experimentation and research, as well as ongoing reevaluation of environmental programs, is reflected in a variety of statutory provisions (e.g., section 8001 of RCRA, 42 U.S.C. 6981).

Under Project XL, participants in four categories: facilities, industry sectors, governmental agencies, and communities are offered the opportunity to develop common sense, cost-effective strategies that will replace or modify specific regulatory requirements on the condition that they produce and demonstrate superior environmental performance. To participate in Project XL, applicants must develop alternative pollution reduction strategies pursuant to eight criteria: (1) Superior environmental performance; (2) cost savings and paperwork reduction; (3) stakeholder involvement and support; (4) test of an innovative strategy; (5) transferability; (6) feasibility; (7) identification of monitoring, reporting, and evaluation methods; and (8) avoidance of shifting risk burden. The project must have full support of affected federal, state, and tribal agencies to be selected. For more information about the XL criteria, readers should refer to two descriptive documents published in the **Federal Register** (60 FR 27282, published May 23, 1995 and 62 FR 19872, published April 23, 1997) and the document entitled "Principles for Development of Project XL Final Project Agreements," dated December 1, 1995.

Development of a Project has four basic phases: the initial pre-proposal

phase where the project sponsor comes up with an innovative concept that it would like EPA to consider as an XL pilot; the second phase where the project sponsor works with EPA and interested stakeholders in developing its XL proposal; the third phase where EPA, local regulatory agencies, and other interested stakeholders review the XL proposal; and the fourth phase where the project sponsor works with EPA, local regulatory agencies, and interested stakeholders in developing the FPA and legal mechanism. The XL pilot proceeds into the implementation phase and evaluation phase after promulgation of the required federal, state and local legal mechanisms and after the designated participants sign the FPA.

The Final Project Agreement (FPA) is a written agreement between the project sponsor and regulatory agencies. The FPA contains a detailed description of the pilot project. It addresses the eight Project XL criteria and discusses how EPA expects the project to meet that criteria. The FPA identifies performance goals and indicators which will enable the project sponsor to demonstrate superior environmental benefits. The FPA also discusses administration of the agreement, including dispute resolution and conditions for termination of the agreement. On September 18, 2000, EPA, Buncombe County, and the North Carolina Department of Environment and Natural Resources signed the FPA for the Buncombe County bioreactor landfill XL Project.

For more information about the XL criteria, readers should refer to the two descriptive documents published in the **Federal Register** (60 FR 27282, May 23, 1995 and 62 FR 19872, April 23, 1997), and the December 1, 1995 Principles for Development of Project XL Final Project Agreements document. For further discussion as to how the Buncombe County XL project addresses the XL criteria, readers should refer to the Final Project Agreement available from the EPA RCRA docket (see **ADDRESSES** section of today's preamble) or on the world wide web at <http://www.epa.gov/projectxl/>.

#### *C. What Are Bioreactor Landfills?*

A bioreactor landfill is generally defined as a landfill operated to transform and stabilize the readily and moderately decomposable organic constituents of the waste stream by purposeful control to enhance the microbiological process. Bioreactor landfills often employ liquid addition to supplement leachate for recirculation. A byproduct of the decomposition process is landfill gas, which includes methane,

carbon dioxide, and volatile organic compounds (VOCs). Landfill gases are produced sooner in a bioreactor landfill than in a conventional landfill.

Therefore, bioreactors often incorporate state of the art landfill gas collection.

On April 6, 2000, EPA published a document in the **Federal Register** (65 FR 18015) requesting information on bioreactor landfills because the Agency is considering whether and to what extent the Criteria for Municipal Solid Waste Landfills, 40 CFR part 258, should be revised to allow for leachate recirculation over alternative liners in MSWLF. EPA requested information about liquid additions and leachate recirculation in MSWLFs to the extent currently allowed, i.e., in MSWLFs designed and constructed with a composite liner as specified in 40 CFR 258.40(a)(2).

Proponents of bioreactor technology note that operation of MSWLFs as bioreactors provide a number of environmental benefits including: (1) Increasing the rate of waste decomposition which in turn extends the operating life of the landfill and lessens the need for additional landfill space or other disposal options; (2) decreasing or even eliminating the quantity, and increasing the quality of leachate requiring treatment and offsite disposal, leading to decreased risks and costs associated with leachate management, treatment and disposal; (3) reduced post-closure care costs and risks, due to the accelerated, controlled settlement of the solid waste during landfill operation; (4) lower long term potential for leachate migration into the subsurface environment; and (5) opportunity for recovery of methane gas for energy production.

There are several XL projects involving operation of landfills as bioreactors throughout the country. These landfill projects will enable EPA to evaluate benefits of different alternative liners and leachate recirculation systems under various terrains and operating conditions. As expressed in the above referenced April 2000 **Federal Register** document, EPA is interested in assessing the performance of landfills operated as bioreactors and these XL projects could contribute valuable data.

The Buncombe County project and other XL projects are expected to contribute additional information on the performance of MSWLFs when liquids are added to a landfill constructed with an alternative liner system. The Agency is also interested in assessing the performance of various types of alternative liners and how they meet the

design performance standard under bioreactor conditions.

The terms of the Buncombe County bioreactor project are contained in the FPA. The FPA is available to the public at the EPA RCRA Docket in Washington, DC, from the Region 4 XL Coordinator, and on the world wide web at <http://www.epa.gov/projectxl/>.

### III. Overview of the Buncombe County Landfill XL Project

The Buncombe County Solid Waste Management Facility operates a RCRA Subtitle D municipal solid waste landfill in an area north of Asheville in Buncombe County, western North Carolina. The landfill began operation in 1997. The landfill facility encompasses approximately 600 acres although only a portion of that acreage is used for landfilling operations at this time. The French Broad River traces the south and west border of the landfill facility acreage. To date three cells of the planned 10 cells for the facility have been constructed and are in operation.

Cells 1 and 2 of the landfill facility were constructed in 1997 with the standard composite liner system prescribed in EPA regulations implementing RCRA Subtitle D for MSWLFs. The standard liner consists of 24 inches of compacted clay with a hydraulic conductivity of no more than  $1 \times 10^{-7}$  cm/sec overlain by a 60 millimeter High Density Polyethylene (HDPE) membrane. Cell 3 was constructed with an alternative liner system consisting of 18 inches of compacted clay with a hydraulic conductivity of no greater than  $1 \times 10^{-5}$  cm/sec overlain by a geosynthetic clay liner (GCL) with a hydraulic conductivity of no greater than  $5 \times 10^{-9}$  cm/sec and a 60-mil HDPE liner.

Cells 1, 2, and 3 were constructed with a leachate collection/drainage system consisting of two feet of crushed stone. A 28 oz. fabric cushion protects the underlying synthetic liner from penetration or abrasion from the stone. Interior walls of each cell (lift) slope to a collection sump where leachate is pumped out over the cell wall (i.e., no liner penetration). A central leachate collection line was also installed in Cell 3 to improve leachate collection due to the lesser interior slopes. Leachate is pumped from each of the cells to a 1.5 million gallon composite lined leachate holding pond. A tanker truck pumps leachate from the holding pond and hauls it to a wastewater treatment plant located seven miles from the landfill facility.

#### A. Description of the Project

Buncombe County intends to construct and operate a combined leachate recirculation and gas recovery system in prototype Cells 4 and 5 for which construction began in August, 2000. Cells 4 and 5 will be constructed with the same alternative liner system as was installed in Cell 3. If operation of these prototype cells is successful, Buncombe County will construct the remaining Cells 6–10 with the same alternative liner system and combined leachate recirculation and gas recovery system. Recirculation of leachate would not be permitted under the current federal regulations using the alternative liner by Buncombe County. Buncombe will begin recirculation of leachate in Cell 3 when this rule is finalized.

Prior to adding any supplemental liquids to the facility, Buncombe County will prepare a comprehensive landfill stability analysis under recirculation conditions with supplemental liquids. Buncombe County will submit this analysis to three university professors who are recognized as experienced in the field of geotechnical engineering in general and landfill slope stability. The County will incorporate comments from these professors into a final stability analysis for their review. The County will forward the analysis along with letters from the reviewing professors stating that the landfill should remain stable under the operating plan developed by the County, to the USEPA and the State of North Carolina for concurrence prior to adding any supplemental liquids.

As is the case with Cells 1, 2, and 3, Buncombe County will install an automatic submersible pump at the collection point at the bottom of each landfill cell with appurtenant piping to pump the leachate collected to the leachate holding pond. The pump engages automatically when the leachate reaches a certain depth above the pump. A new pump system and dedicated force main will be constructed at the leachate holding pond to direct leachate back to the landfill cells for recirculation.

During operation, solid waste will be added and compacted in layers above the landfill liner and leachate collection system. Additional piping will be installed in a horizontal configuration as the solid waste layers build. The piping will be used to redistribute leachate pumped from the leachate holding pond and to collect landfill gas.

As further protection against liner leakage, performance of the liner system will be monitored by an adjunct leak detection system underlying the

compacted soil layer of the sump portion of each landfill cell. The leak detection system will consist of 60-mil HDPE liner placed on a prepared subgrade. Any leakage through the primary composite liner system will be captured on the 60 mil HDPE liner and fed to a sump. A 4-inch capped pipe will drain leachate collected in the sump out beyond the footprint of the landfill cell. The capped pipe will be sampled semi-annually to determine whether any leachate escaped the composite liner.

As required by 40 CFR 258.51, Buncombe County installed groundwater monitoring wells to monitor whether landfill operations impact groundwater. Two upgradient groundwater monitoring wells were installed and sampled prior to construction of the first cell to determine true background groundwater quality in the absence of any landfill construction or operation. Additional downgradient monitoring wells will continue to be installed with the construction of each landfill unit. These wells will continue to be sampled semi-annually for constituents listed in Appendix I of the North Carolina Solid Waste Management Rules.

Moisture content of the landfill waste will be monitored throughout the life of the project through a network of moisture sensors installed as waste is placed. Final design of the moisture detection system will occur with preparation of the permitting application.

Surface water quality is currently monitored at three stations around the facility. All surface water runoff from the site flows north through erosion control structures to Blevin Branch. Blevin Branch will continue to be monitored at the eastern end of the site where it originates and at the western end where it exits the landfill facility.

Leachate will be applied to landfill waste during operations to provide enhanced conditions for rapid waste decomposition. If additional water is needed to achieve optimal moisture level, this water will be drawn from the French Broad River.

Leachate will be injected below the landfill surface to prevent contact with employees or users of the landfill. In addition, the County may apply leachate to the working face after the landfill has stopped receiving customers and just before the day's waste is covered. At that time, the only people nearby will be the driver of the leachate spray truck and the heavy equipment operators placing the soil cover. These persons should not come in contact with the leachate. If supplemental river water is

used, it will first be discharged to the leachate collection pond before application to the landfill or the river water will be applied directly to the working face of the landfill by tanker truck. The recirculation system will be designed and operated to allow application of leachate in small, discreet areas as needed to maintain an optimum moisture level.

The volume of leachate and supplemental water added back to the landfill will be monitored throughout the life of the project. Recirculation quantities will be quantified using flow sensors installed on the leachate discharge line at the leachate holding pond and on the delivery lines to each cell. The objective is to determine the amount of leachate returned to each cell individually and determine an optimum moisture content and application rate.

Proponents of leachate recirculation claim that there is an improvement in leachate quality due to the aerobic and anaerobic decomposition of constituents which serve as a food source to the bacteria. Improved leachate quality is an indicator of a stabilized waste mass that poses a decreased threat to groundwater supplies should the containment system breach at some future date. Buncombe County will sample leachate from each cell semi-annually to determine whether leachate quality is improving.

Since effective degradation of the waste mass and gas production depend on optimizing the temperature within the landfill cell, temperature gauges will be installed along with the moisture sensors as waste is added to the landfill. As each cell reaches design grade, monuments will be installed to monitor settlement of the waste. Monument settlement will be evaluated semi-annually. Additionally, annual aerial topographic surveys will be conducted to evaluate settlement and the effectiveness of the leachate recirculation system.

#### *B. What Are the Environmental Benefits Anticipated Through Project XL?*

Under the FPA for the Buncombe County bioreactor project, the expected superior environmental benefits include: (1) maximizing landfill gas control and minimizing fugitive methane and VOC emissions; (2) greater recovery of landfill gas; (3) landfill life extension and/or reduced landfill use; and (4) minimizing leachate associated groundwater concerns.

##### **1. Maximizing Landfill Gas Control and Minimizing Fugitive Methane and VOC Emissions.**

Landfill gas contains roughly 50% methane, a potent greenhouse gas. In terms of climate effects, methane is

second in importance only to carbon dioxide. Landfill gas also contains volatile organic compounds (VOC's) that are air pollutants of local concern. Buncombe County will immediately begin collecting landfill gas by installing a gas collection system consisting of a surface permeable gas collection layer overlain by a cover of soil with an embedded membrane. Gas will be withdrawn such that this permeable layer beneath surface containment will be at a slight vacuum. This system will minimize the amount of landfill gas emitted to the environment. Buncombe County will immediately begin collecting landfill gas once recirculation operations begin.

##### **2. Expedited Methane Generation/ Recovery.**

If the landfill were operated as a conventional landfill, the County would likely not have to install a gas collection system at this facility under New Source Performance Standards (NSPS) for several years. However, in the Buncombe bioreactor, the majority of the methane will be generated over a much earlier and shorter time period than a conventional landfill. The County has committed to installing the system and collecting gas as soon as recirculation begins which should make the total amount of gas collected at this site greater than if it operated conventionally and only complied with NSPS. This is expected to minimize the long-term low-rate methane generation often lost in conventional landfill practices.

##### **3. Landfill Life Extension And/or Reduced Landfill Use.**

The more rapid conversion of greater quantities of solid waste to gas reduces the volume of the waste. Volume reduction translates into either landfill life extension and/or less landfill use. Thus, this bioreactor landfill will be able to accept more waste over its working lifetime, subject to applicable State regulatory requirements. Additionally, fewer landfills may be needed to accommodate the same inflows of waste from a given population.

##### **4. Minimizing Leachate-Associated Concerns.**

Research has shown that bioreactor processes can reduce the concentration of many pollutants in leachate. These include organic acids and other soluble organic pollutants. Since a bioreactor operation brings pH to near-neutral conditions, metals of concern are largely precipitated and immobilized in the waste.

#### *C. How Have Various Stakeholders Been Involved in this Project?*

Buncombe County encouraged stakeholder involvement during the project development stage in several ways. The methods included communicating through the media (newspaper, e-mails, and XL website); directly contacting interested parties; and offering an educational program regarding the regulatory requirements impacted by the XL project. Buncombe County has continued to keep stakeholders informed on the project status via mailing lists, newspaper articles, and public meetings; and EPA has posted information on the website at URL: <http://www.epa.gov/projectxl/buncombe/index.htm>. In addition, Buncombe County has initiated stakeholder involvement by televising a presentation of the issues associated with the landfill originally presented to the Buncombe County Commissioners' Annual Retreat. The State of North Carolina and EPA are kept informed of issues as they arise.

Representatives from the local community and the Blue Ridge Environmental Defense League participated in conference calls and meetings with the Project XL team and provided comments during the development of the Final Project Agreement.

Few local stakeholders other than immediate residents have expressed interest in actively participating in the development of the project. Copies of all comment letters, as well as EPA's response to comment letters, are available on the website.

As this XL project is implemented, the stakeholder involvement program will shift its focus to ensure that: (1) Stakeholders are apprized of the status of project implementation; and, (2) stakeholders have access to information sufficient to judge the success of this Project XL initiative. Anticipated stakeholder involvement during the term of the project will likely include other general public meetings to present periodic status reports, availability of data and other information generated. Buncombe County will convene periodic meetings for interested stakeholders to brief them on progress during the duration of the XL Agreement. In addition to the reporting requirements of today's rule, the FPA includes provisions whereby the County will make copies of project reports available to all interested parties. A public file on this XL project has been maintained at the website throughout project development, and the EPA will continue to update it as the project is

implemented. Additional information is available at EPA's website at <http://www.epa.gov/projectxl>.

A detailed description of this program and the stakeholder support for this project is included in the Final Project Agreement, which is available through the docket or through EPA's Project XL site on the Internet (see **ADDRESSES** section of this preamble).

Buncombe County has preliminarily identified the following stakeholders, and additional stakeholders may be added over time:

- Buncombe County General Services Department
- Buncombe County Citizens, as represented by the Buncombe County Board of Commissioners
- Buncombe County Environmental Affairs Board, representing citizens of Buncombe County
- The North Carolina Chapter of the Solid Waste Association of North America (NCSWANA)
- The Western North Carolina Regional Air Pollution Control Agency (which has authority to issue a Title V Permit under the Clean Air Act)
- Blue Ridge Environmental Defense League
- Counsel of Independent Business Owners
- Nearby residents

#### *D. How Will This Project Result in Cost Savings and Paperwork Reduction?*

With respect to Cell 3, the alternative liner system saved Buncombe County nearly \$400,000 as compared with the standard composite system. It is estimated that the County will save a total of \$5 million through build-out of the facility if the alternative liner system is used. Other potential cost savings from the project include:

1. \$5–\$10 million in reduced construction costs for additional landfill capacity if an increase of 20%–30% in additional waste volume can be achieved due to rapid waste decomposition during operations; and,
2. \$9 million if leachate hauling and off-site treatment can be eliminated. No appreciable reduction in paperwork is anticipated.

### **IV. What Regulatory Changes Are Being Made To Implement This Project?**

#### *A. Existing Liquids Restriction for MSWLFs (40 CFR 258.28)*

Today's site-specific rule adds the Buncombe County landfill to those MSWLFs which are granted regulatory flexibility from 40 CFR 258.28 Liquid Restrictions under 40 CFR 258.28(a)(3). Under the existing rule, bulk or noncontainerized liquid waste is not

allowed to be placed in a MSWLF unit unless (1) the waste is household waste other than septic waste, (2) the waste is leachate or gas condensate derived from the MSWLF unit and the MSWLF unit is designed with a composite liner and leachate collection system as described in § 258.40(a)(2), or (3) they are designated as Project XL MSWLF units meeting the applicable requirements set forth at 40 CFR 258.41. As stated above, Buncombe County seeks to recirculate leachate derived from the landfill, possibly supplemented with river water, to Cell 3 and future cells, all of which have or are expected to have a liner system that differs from the liner prescribed in 40 CFR 258.41(a)(2). Cells 1 and 2 were constructed with the prescribed liner, and therefore be allowed to receive leachate and gas condensate under 40 CFR 258.28(a)(2).

EPA has entered into Final Project Agreements for several bioreactor pilot projects. Each of these projects will require a site-specific rulemaking in order to be implemented.

#### *B. Site-Specific Rule*

Today's rule amends 40 CFR 258.41 by adding a new section, § 258.41(a). The new § 258.41(a) specifically applies to the Buncombe County Solid Waste Management Facility in Buncombe County, North Carolina and will allow Cells 1–10 of the landfill to utilize recirculation of leachate supplemented with river water, as long as each cell meets the design criteria and other requirements set forth in § 258.41(a).

#### **1. Design Specifications**

Currently, federal regulations outline two methods for complying with liner requirements for municipal solid waste landfills. The first method is a performance standard under 40 CFR 258.40(a)(1). This standard allows installation of any liner configuration provided the liner design is approved by an EPA-approved state and the design ensures that certain constituent concentrations are not exceeded in the uppermost aquifer underlying the landfill facility at the point of compliance.

The second method is set out in 40 CFR 258.40(a)(2) and (b). Section 258.40(b) sets forth a liner design which consists of two components: (1) an upper component comprising a minimum of 30 mil flexible membrane liner (60 mil if High Density Polyethylene (HDPE) is used); and (2) a lower component comprising at least two feet of compacted soil with a hydraulic conductivity no greater than  $1 \times 10^{-7}$  cm/sec.

As stated earlier, leachate recirculation in municipal landfills is allowed under 40 CFR 258.28(a)(2) but only if the liner system complies with the design standard set out under 40 CFR 258.40(b) and a leachate collection system as described in § 258.40(a)(2). The reason that the existing regulation requires a leachate collection system and a composite liner design as specified § 258.40(a)(2) is to ensure that contaminant migration to the aquifer is controlled. (56 FR 50978, 51056 (Oct. 9, 1991)).

Under today's proposal, 40 CFR 258.41(a) specifically addresses Buncombe County Landfill in Alexander, North Carolina and allows Cells 3–10 of that landfill to recirculate leachate over an alternative liner as long as those cells met the requirements set forth in that subsection. Section 258.41(a)(4) provides an alternative to the landfill liner design requirements set forth at 40 CFR 258.40(a)(2) and (b). These design criteria are identical to the liner design described in 40 CFR 258.40(b), except that the upper component includes a 60 mil HDPE liner overlying a GCL with a hydraulic conductivity of no greater than  $5 \times 10^{-9}$  cm/sec. The lower component of the composite liner consists of 18 inches of compacted soil with a hydraulic conductivity of not more than  $1 \times 10^{-5}$  cm/sec. The GCL will overlay and be in direct contact with the compacted soil layer.

The State of North Carolina reviewed the alternative liner system for Cell 3 prior to approval and authorization for construction. The state's alternative liner design showed a leakage rate through the standard Subtitle D liner system and compared that figure against rates calculated for the alternative liner system for Cell 3. The standard liner calculations produced a leakage rate of 1.12 gallons/acre/day while the alternative liner calculations produced a leakage rate of only 0.53 gallons/acre/day (North Carolina Permitting Guidance for Alternative Composite Liner Systems, June 1, 1998). The alternative liner's leakage rate is expected to be less than half that of the standard prescribed liner. The modeling performed to complete the demonstration of the acceptability (and superiority) of the alternative liner involves inputting the leakage rates into EPA's MULTIMED model, which simulates the movement of contaminants leaching from a landfill. The output of the MULTIMED model reflects the fact that the alternative liner is more protective than the standard regulatory liner. Based on this information, EPA is satisfied that the

liner design will afford as much, if not more, protection to groundwater as the standard composite liner specified in 40 CFR 258.41(a).

As further protection against liner leakage, this rule requires cells 3–10 to be constructed with an adjunct leak detection system underlying the compacted soil layer of the sump portion of each landfill cell. The leak detection system will be required to consist of 60-mil HDPE liner placed on a prepared subgrade. Any leakage through the primary composite liner system will be captured on the 60 mil HDPE liner and fed to a sump. The design specifications also require a 4-inch capped pipe to drain leachate collected in the sump out beyond the footprint of the landfill cell.

Based on the modeling for the alternative liner, in conjunction with the leak detection system, EPA believes that the addition of landfill leachate into cells 3–10 will not result in any increased leakage to groundwater from the bioreactor cells.

This rule does not change the requirement in 40 CFR 258.28(a)(2) that a leachate collection system as described in 40 CFR 258.40(a)(2) be in place in order for leachate to be recirculated in the landfill unit. Buncombe County's design for Cells 3–10 is required to have leachate collection systems designed to maintain leachate over the liner to a depth of no more than 30 cm.

## 2. Operational Requirements

This rule only allows certain liquid waste to be added to the Buncombe County facility. Section 258.41(a)(2) authorizes only leachate or gas condensate derived from the MSWLF, which may be supplemented with water from the French Broad River. Buncombe County will also be required to control liquids addition in order to assure that the average moisture content of the landfill does not exceed 50% by weight. EPA is allowing a moisture content of 50% by weight because this is in the middle of the 40%–70% range commonly accepted as needed for biological reaction to go forward in a bioreactor landfill.<sup>1</sup> The rule allows the State Director to establish a different maximum limit on landfill unit moisture content if the State Director determines that a different limit is either necessary to maintain the integrity of the landfill and its liner system or to increase the reaction rate, provided landfill and liner system integrity are

maintained. As previously stated, prior to adding any supplemental liquids to the facility, Buncombe County will prepare a comprehensive landfill stability analysis under recirculation conditions with supplemental liquids and will submit this analysis to three university professors who are recognized as experienced in the field of geotechnical engineering in general, and landfill slope stability. This rule also includes, as a prerequisite to adding liquids, the requirement that Buncombe County receive an air quality permit from the Western North Carolina Regional Air Quality Agency incorporating requirements for Buncombe County Landfill XL project. The air quality permit is also referred to as the Federally-Enforceable State-Operating Permit (FESOP). The air permit addressing the potential for earlier gas generation was issued on November 13, 2000 and will be required to be in effect during the entire period of leachate recirculation and post closure period. As described above in section III.B., Expected Superior Environmental Performance, one result of adding liquids to a landfill is that landfill gases will be generated earlier and over a shorter period than in a conventional landfill.

## 3. Monitoring and Reporting

As discussed above in section III.A., Description of the Project, an important element of the project is the information about bioreactor operation, alternative liner performance, waste decomposition efficiency, and potential environmental impacts. This rule requires Buncombe County to monitor certain parameters which are not required for conventional MSWLFs under 40 CFR part 258. Some of this data, for example, moisture content, will be required in order to assess the physical stability of the landfill unit. This rule also requires Buncombe County to report data obtained from the required monitoring to the State and EPA on an annual basis.

## 4. Duration of Authority

The FPA calls for the project to continue for 25 years in order to take into account the bioreactor process in all 10 cells of the facility. Therefore, today's rule provides that 40 CFR 258.41(a) be in effect for 25 years from the effective date of the rule.

Today's rule also includes an early termination provision in the event of noncompliance with the requirements of 40 CFR 258.41(a). The EPA Regional Administrator for Region 4 is authorized to issue a notice of termination, stating the reason for the decision to terminate the authority under 40 CFR 258.41(a).

The Regional Administrator could terminate the rule with respect to all or part of the landfill cells for which the site-specific authority to add liquids is required (Cells 3–10). Termination would take effect 60 days from the date of the notice, unless the Regional Administrator determined, in writing, to rescind the termination. In the event of termination, all the applicable regulatory requirements of 40 CFR part 258 that would have applied to the Buncombe County facility in the absence of 40 CFR 258.41(a) would be applicable. However, the Regional Administrator could establish an interim compliance period if deemed necessary to complete the transition from bioreactor operation to conventional "dry tomb" operation.

This provision for early termination of the rule is not exclusive. In addition to termination for noncompliance, the FPA allows any party to the agreement to terminate the project before the end of 25 years, for any reason. In the event that EPA determines that this project and site-specific rule should be terminated for reasons other than noncompliance before the end of the 25 year period and that the site-specific rule should be rescinded, the Agency would withdraw this rule through a subsequent rulemaking. This will afford all interested persons and entities the opportunity to comment on the proposed early termination and withdrawal of regulatory authority, and the proposed termination would also include any proposal for an interim compliance period while Buncombe County returned to full compliance with the existing requirements of 40 CFR part 258.

In addition, new laws or regulations may become applicable during the project term which might render the project impractical, or might contain regulatory requirements that supersede this XL Project. Or, during the project duration, EPA may decide to change the federal rule allowing recirculation over alternative liners and the addition of outside bulk liquids for all Subtitle D landfills. In that event, the FPA and site-specific rule for this project would no longer be needed.

## V. Additional Information

### A. Why Is This Rule Immediately Effective?

Under 5 U.S.C. 553(d), the rulemaking section of the Administrative Procedure Act, EPA is making this rule effective upon publication. Under 5 U.S.C. 553(d)(1), EPA is making this rule immediately effective because the rule relieves a

<sup>1</sup> Reinhart, Debra R. and Townsend, Timothy G., *Landfill Design and Operation* (Lewis Publ. 1998), p. 140.



restriction in that it allows Buncombe County to add to the landfill additional types of liquid waste beyond what is currently allowed under 40 CFR 258.28(a)(1) and (2). In addition, under 5 U.S.C. 553(d)(3), EPA finds good cause exists to make this rule effective immediately because Buncombe County is the only regulated entity affected by the rule, sought the conditional relief provided in this rule, and has had full notice of the rule. Making the rule immediately effective will allow Buncombe County to proceed sooner with the bioreactor project.

*B. How Does This Rule Comply With Executive Order 12866: Regulatory Planning and Review?*

Because this rule affects only one facility, it is not a rule of general applicability and therefore not subject to OMB review and Executive Order 12866. In addition, OMB has agreed that review of site specific rules under Project XL is not necessary.

*C. Is a Regulatory Flexibility Analysis Required?*

The Regulatory Flexibility Act (RFA), 5 U.S.C. 601 *et seq.*, generally requires an agency to conduct a regulatory flexibility analysis of any rule subject to notice and public comment rulemaking requirements unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small not-for-profit enterprises, and small governmental jurisdictions. Only the definition of "small governmental jurisdiction" is relevant here. 5 U.S.C. 601(5) defines "small governmental jurisdiction" to mean governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand. According to Buncombe County officials, the county population in 1990 exceeded 150,000; thus, Buncombe County does not qualify as "small governmental jurisdiction" within the meaning of 5 U.S.C. 601(5).

After considering the economic impacts of today's final rule on small entities, I certify that this action will not have a significant impact on a substantial number of small entities. This final rule will not impose any requirements on small entities because no small entities are subject to this rule.

*D. Is an Information Collection Request Required for This Rule Under the Paperwork Reduction Act?*

This action does not impose an information collection burden under the provisions of the Paperwork Reduction

Act (PRA), 44 U.S.C. 3501 *et seq.* The requirements of this rule do not apply to 10 or more entities, therefore the PRA does not apply.

*E. Does This Rule Trigger the Requirements of the Unfunded Mandates Reform Act?*

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including cost benefit analysis, for proposed and final rules with "Federal mandates" that may result in expenditures to State, local, and tribal governments in the aggregate or to the private sector of \$100 million or more in any one year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the Administrator publishes with the final rule an explanation of why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of the EPA regulatory proposal with significant Federal mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

As discussed above, this rulemaking has limited application. It applies only to the Buncombe County Solid Waste Management Facility. If adopted, this rule will result in a cost savings for Buncombe County when compared with the costs it would have had to incur if required to adhere to the requirements contained in the current rule. As such, this rule does not contain a Federal mandate that may result in expenditures of \$100 million or more for state, local, or tribal governments, in the aggregate,

or the private sector in any one year. While this rule will have a unique affect for Buncombe County, the population of Buncombe County exceeds that which would qualify it as a "small government," therefore, EPA is not required under section 203 of UMRA to develop a small government plan. However, EPA has worked with and continues to work with Buncombe County, affected citizens, and other stakeholders in seeking meaningful and timely input into the development of the Final Project Agreement and this rule. Thus, today's rule is not subject to the requirements of sections 202 and 205 of the UMRA.

*F. How Does the Congressional Review Act Apply to This Rule?*

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. Section 804 exempts from section 801 the following types of rules (1) rules of particular applicability; (2) rules relating to agency management or personnel; and (3) rules of agency organization, procedure, or practice that do not substantially affect the rights or obligations of non-agency parties. 5 U.S.C. 804(3). EPA is not required to submit a rule report regarding today's action under section 801 because this is a rule of particular applicability.

*G. How Does This Rule Comply With Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks?*

Executive Order 13045, entitled "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997), applies to any rule that: (1) Is determined to be "economically significant," as defined in Executive Order 12886; and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children and explain why the planned regulation is preferable to potentially effective and feasible alternatives considered by the Agency.

This rule is not subject to the Executive Order because it is not economically significant as defined in



Executive Order 12866, and because the Agency does not have reason to believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This rule does not involve decisions based on environmental health or safety risks because it is limited to modifying a regulatory construction standard for a municipal solid waste liner that is expected to result in a liner which performs at least as well as the liner design specified in the current regulations and for a lesser construction cost.

#### *H. How Does This Rule Comply With Executive Order 13132: Federalism*

Executive Order 13132, entitled "Federalism" (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" is defined in the Executive Order to include regulations that have "substantial and direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government."

This rule does not have federalism implications. It will not have a substantial direct effect on States, on the relationship between the national government and the States, or on the distribution of powers and responsibilities among various levels of government, as specified in Executive Order 13132. This rulemaking will only affect one local governmental entity and state and will provide regulatory flexibility for each entity concerned. Thus, Executive Order 13132 does not apply to this rule.

#### *I. How Does This Rule Comply With Executive Order 13175: Consultation and Coordination With Indian Tribal Governments?*

Executive Order 13175, entitled "Consultation and Coordination with Indian Tribal Governments" (65 FR 67249, November 6, 2000), requires EPA to develop an accountable process to ensure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications." "Policies that have tribal implications" is defined in the Executive Order to include regulations that have "substantial direct effects on one or more Indian tribes, on the relationship between the Federal government and the Indian tribes, or on

the distribution of power and responsibilities between the Federal government and Indian tribes."

This rule does not have tribal implications. It will not have substantial direct effects on tribal governments, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes, as specified in Executive Order 13175. EPA is currently unaware of any Indian tribes located in the vicinity of the landfill or Buncombe County. Thus, Executive Order 13175 does not apply to this rule.

#### *J. Does This Rule Comply With the National Technology Transfer and Advancement Act?*

As noted in the proposed rule, Section 12(d) of the National Technology Transfer and Advancement Act of 1995 ("NTTAA"), Public Law 104-113, requires that EPA use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (for example, material specifications, test methods, sampling procedures, and business practices) developed or adopted by voluntary consensus standards bodies. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This rulemaking involves technical standards. EPA has decided to use existing voluntary consensus standards developed by the American Society of Testing and Materials (ASTM). EPA is using ASTM D5261 and ASTM D2216-98 as standards for the geosynthetic liner specified in 40 CFR 258.41(a)(4)(iii). These standards assure the proper standards of production for geotextiles and geosynthetic clay liners addressed in today's rule. ASTM D5261 was approved on June 15, 1992. ASTM D2216-98 was approved in 1998. These standards are available from ASTM through their website, <http://www.astm.org/>, or by contacting ASTM at 100 Barr Harbor Drive, West Conshohocken, Pennsylvania, 19428-2959. The ASTM is a voluntary consensus standards-setting body under the NTTAA.

#### *K. Does This Rule Comply With Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use?*

This rule is not subject to Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355, May 22, 2001) because it is not a significant regulatory action under Executive Order 12866.

#### **List of Subjects in 40 CFR Part 258**

Environmental protection, Incorporation by reference, Landfill, Solid waste.

Dated: August 14, 2001.

**Christine Todd Whitman,**  
Administrator.

For the reasons set forth in the preamble, part 258 of title 40 Chapter I of the Code of Federal Regulations is amended as follows:

#### **PART 258—CRITERIA FOR MUNICIPAL SOLID WASTE LANDFILLS— [AMENDED]**

1. The authority citation for part 258 continues to read as follows:

**Authority:** 33 U.S.C. 1345(d) and (e); 42 U.S.C. 6902(a), 6907, 6912(a), 6944, 6945(c), and 6949a(c).

#### **Subpart D—Design Criteria**

2. Section 258.41 is amended by adding paragraph (a) to read as follows:

##### **§ 258.41 Project XL Bioreactor Landfill Projects.**

(a) Buncombe County, North Carolina Project XL Bioreactor Landfill Requirements. Paragraph (a) of this section applies to Cells 1, 2, 3, 4, and 5 of the Buncombe County Solid Waste Management Facility located in the County of Buncombe, North Carolina, owned and operated by the Buncombe County Solid Waste Authority, or its successors. This paragraph (a) will also apply to Cells 6, 7, 8, 9, and 10, provided that the EPA Regional Administrator for Region 4 and the State Director determine that the pilot project in Cells 3, 4, and 5 is performing as expected and that the pilot project has not exhibited detrimental environmental results.

(1) The Buncombe County Solid Waste Authority is allowed to place liquid waste in the Buncombe County Solid Waste Management Facility, provided that the provisions of paragraphs (a)(2) through (9) of this section are met.

(2) The only liquid waste allowed under this section is leachate or gas

condensate derived from the MSWLF, which may be supplemented with water from the French Broad River. The owner or operator shall control any liquids to the landfill to assure that the average moisture content of the landfill does not exceed 50% by weight. Liquid addition and recirculation is allowed only to the extent that the integrity of the landfill including its liner system is maintained, as determined by the State Director.

(3) The MSWLF unit shall be designed and constructed with a liner and leachate collection system as described in § 258.40(a)(2) or paragraphs (a)(4) and (5) of this section. The owner or operator must place documentation of the landfill design in the operating record and notify the State Director that it has been placed in operating record;

(4) Cells 3–10 shall be constructed with a liner system consisting of the components described in paragraphs (a)(4)(i) through (v) of this section, or an equivalent or superior liner system as determined by the State Director:

(i) A lower component consisting of at least 18 inches of compacted soil with a hydraulic conductivity of no more than  $1 \times 10^{-5}$  cm/sec., and

(ii) An upper component consisting of a minimum 30-millimeter (“mil”) flexible membrane liner (FML) or 60-mil if High Density Polyethylene (“HDPE”) is used, and

(iii) A geosynthetic clay liner (GCL) overlaying and in direct contact with the 18 inches of compacted soil in paragraph (a)(4) of this section and having the following properties:

(A) The GCL shall be formulated and manufactured from polypropylene geotextiles and high swelling containment resistant sodium bentonite. The bentonite-geotextile liner shall be manufactured using a minimum of one pound per square foot as determined using the Standard Test Method for Measuring Mass per Unit Area of Geotextiles, ASTM D-5261-92 (reapproved in 1996). The high swelling sodium montmorillonite clay shall be at 12% moisture content as determined by the Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass, ASTM D2216-98. The Director of the Federal Register approves this incorporation by reference with 5 U.S.C. 552(a) and 1 CFR part 51. These methods are available from The American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959. These methods may be inspected at EPA’s docket office located at Crystal Gateway, 1235 Jefferson Davis Highway, First Floor, Arlington, Virginia, or at the Office of the Federal Register, 800 North

Capitol Street, NW., Suite 700, Washington, DC.

(B) The encapsulating geotextile shall be polypropylene and shall have a minimum weight of 6 oz./square yard.

(iv) The upper component shall be installed in direct and uniform contact with an overlaying soil cushioning component.

(v) Underlying the above liner system, there shall also be installed a leak detection system consisting of a 60-mil HDPE liner placed on a prepared subgrade.

(A) A 4 inch capped pipe will drain liquid collected in the sump out beyond the footprint of the landfill cell.

(B) Water collected on the leak detection liner shall be monitored at least semi-annually as directed by the State Director to determine whether any leachate escaped the liner system.

(5) Cells 3–10 shall be designed and constructed with a leachate collection system to maintain less than 30 centimeters depth of leachate is present at the sump location. The leachate collection system shall include a continuous monitoring system to monitor depth of leachate.

(6) The owner/operator shall keep the Federally Enforceable State Operating Permit (FESOP) issued by the Western North Carolina Air Quality Agency for the Buncombe County Solid Waste Management Facility in effect, and shall comply with the provisions of the FESOP, during the entire period of leachate recirculation and the post closure period. The FESOP was issued on November 13, 2000 and contains the air quality requirements for the Buncombe County Landfill XL project.

(7) Monitoring and Reporting Requirements. The owner or operator of the Buncombe County Solid Waste Management Facility shall monitor for the parameters listed in paragraphs (a)(7)(i) through (xiii) of this section and submit an annual report on the XL project to the EPA Regional Administrator for Region 4 and the State Director. The first report is due coincident with the October 2001 report to the state. The report should state what progress has been made toward the superior environmental performance and other commitments as stated in the Final Project Agreement. The report shall include, at a minimum, the following data:

(i) Amount of landfill gas generated;

(ii) Percent capture of landfill gas, if known;

(iii) Quality of the landfill gas, amount and type of liquids applied to the landfill;

(iv) Method of liquids application to the landfill;

(v) Quantity of waste placed in the landfill;

(vi) Quantity and quality of leachate collected;

(vii) Quantity of leachate recirculated back into the landfill;

(viii) Information on the pretreatment of waste applied to the landfill;

(ix) Data collected on landfill temperature and moisture content;

(x) Data on the leachate pressure (head) on the liner;

(xi) Observations, information, and studies made on the physical stability of the MSWLF units that are developed during the project term, if any.

(xii) The above data may be summarized, and, at a minimum shall contain, the minimum, maximum, median, and average data points as well as the frequency of monitoring as applicable.

(xiii) The method and frequency of monitoring shall be specified by the State Director.

(8) Termination and Withdrawal.

(i) Paragraph (a) of this section will terminate August 22, 2026, unless a subsequent rulemaking is issued or terminated earlier pursuant to paragraph (a)(8)(ii) of this section.

(ii) In the event of noncompliance with paragraph (a) of this section, EPA may terminate the authority under paragraph (a) of this section and the authority to add liquid wastes to all or part of cells 3–10 under § 258.28(a)(3). The EPA Regional Administrator will provide written notice of intent to terminate to the Buncombe County Solid Waste Authority with a copy to the State Director. The notice will state EPA’s intent to terminate under the rules and will include a brief statement of EPA’s reasons for its action. The termination will take effect 60 days from the date of the notice, unless the EPA Regional Administrator for Region 4 issues a written notice rescinding the termination.

(9) *Compliance requirements in the event of termination or withdrawal.* The Buncombe County Solid Waste Management Facility will be subject to all regulatory provisions applicable to MSWLFs upon termination of authority under this section. In the event of early termination of this section, the EPA Regional Administrator for Region 4 may provide an interim period of compliance to allow Buncombe County a reasonable period of time for transition following cessation of liquids addition.

\* \* \* \* \*

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