



CITY OF ATLANTA

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April 26, 2004

Mr. Lou Musgrove
Program Manager
Stationary Source Compliance Program
Georgia Department of Natural Resources
Georgia Department of Natural Resources
4244 International Parkway, Suite 120
Atlanta, GA 30354

- Never in Compliance - Fraud From Basins

Re: Proposal for Landfill Gas Emission Compliance Gun Club Road Landfill,
Permit No. 060-026D(SL)

Dear Mr. Musgrove:

This proposal has been prepared to present the City of Atlanta's approach to upgrade and expand the existing landfill gas collection and control system (GCCS) to address Georgia Environmental Protection Division's (EPD) concerns regarding the landfill gas (LFG) emissions at the Gun Club Road landfill [Permit No. 060-026D(SL)] located in Atlanta, Georgia. This proposal has been developed in response to the EPD's draft consent order (dated 18 December 2003) and discussions with EPD during a meeting on February 4, 2004, held between EPD, the City of Atlanta (City), and the City's consultants, CH2M HILL.

The objective of this proposal is to present the following:

- Full Disclosure (never)

- the GCCS upgrade and expansion scope and implementation approach;
- the GCCS operating and reporting requirements; and
- A description of how the proposed system and its operation will meet the intent and requirements of the draft consent order.

Background

The Gun Club Road Landfill is located in Fulton County, Georgia, approximately 6 miles west of downtown Atlanta. The site is located in an urban area with residential areas adjoining the site on its

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1968

north and east sides, and is bordered by Proctor Creek on the north and east. The landfill property encompasses approximately 128 acres, and beginning in 1968 was operated as a sanitary landfill. EPD permitted the site as a non-hazardous municipal landfill in 1977 [Solid Waste Handling Permit Number 060-026D(SL)].

Landfill closure was initiated in 1995 in compliance with EPD Consent Order Number EPD-SW-1104. Since the landfill closure, the GCCS, originally installed in 1986, and repaired and upgraded during the closure, was and has been continually operated, with routine monitoring, record keeping and reporting. The following timeline presents a synopsis of the installation and operation of the GCCS:

- Landfill GCCS installed in 1986;
- EPD and the City signed a Consent Order in 1995 to close the landfill;
- Landfill Closure Plan approved by EPD in September 1996 included Phase I and Phase II upgrades and expansions of the GCCS existent at the time of closure;
- Landfill closure, including Phase I of the approved GCCS upgrade, completed in 2000;
- Phase II of the GCCS expansion was not installed at the time of closure because the site-specific testing of LFG performed in 1996 indicated that the site's NMOC emission rate was less than the proposed regulatory threshold limit of 50 megagrams/year; and
- The Phase I GCCS was operated, maintained, monitored and reported in accordance with the landfill post-closure care plan from 2000 to date.

On March 19, 2003, EPD's Air Protection Branch issued a Notice of Violation (NOV) to the City for alleged violations regarding landfill gas emissions at the Gun Club Road Landfill. The City met with EPD in May and October of 2003 to discuss the NOV and submitted an initial response on May 18, 2003 addressing each of the violations noted, and provided additional information and clarification through subsequent responses submitted on June 19, 2003 and July 18, 2003.

On December 23, 2003, EPD proposed a draft Consent Order to resolve the alleged violations. The City met with EPD on February 4, 2004 to discuss the proposed Consent Order and related issues. During the meeting, EPD suggested that the City might propose approaches to mitigating the landfill gas concerns at the landfill as an alternative proposal to the draft Consent Order. This paper presents a proposed approach for the expansion and upgrade of the existing landfill GCCS to comprehensively capture and treat the landfill gas emissions.

The landfill site is currently under consideration for future recreational land use as part of a comprehensive redevelopment initiative underway in the area surrounding the landfill. The landfill area is proposed to be developed as a golf course with related facilities for operations and maintenance. The City will work with the redevelopment planners to ensure that proposed future land uses are compatible with the proposed GCCS expansion and upgrade as well as compliant with the performance and operational standards as required in the regulations.

GCCS Performance Objectives

The primary GCCS performance objectives are anticipated to be the following:

- Expanded GCCS will comply with the Georgia EPD Solid Waste Rules [Chapter 391-3-4-.07 (3) (h)] that require LFG controls when the presence of LFG results in a LFG concentration in excess of 25 percent of the lower explosive limit (LEL) for methane in structures or LEL at the facility boundary.
- The annual Volatile Organic Compounds (VOC) emission rate calculated based on the LFG testing results, in-place waste volume and installed controls will be below the emission limit for classification as a major emission source in a severe ozone non-attainment area (<25 tons/year).
- The annual NMOC emission rate will also be calculated based on the LFG testing results and in-place waste volume to verify it is below the 50 megagrams/year threshold value.

The City believes that compliance with the proposed GCCS performance objectives will meet the regulatory requirements under the Georgia Solid Waste Regulations and address EPD's concerns regarding the landfill emissions. These performance objectives will also provide safe conditions for the planned future development of the landfill.

Proposed Landfill Gas Collection and Control System

At present, the Gun Club Road landfill includes an operating GCCS that captures the LFG and burns it in a flare. The existing GCCS is described in further detail in the amended landfill permit, approved Closure plan, and Closure Certification Report for the landfill. The existing GCCS covers approximately 25% of the closed landfill area and is currently operated to maximize the zone of capture and minimize offsite migration of LFG. The captured gas is flared to ensure destruction prior to release to atmosphere. A plan of the existing GCCS is shown in the attached drawings.

The EPD-approved closure plan for the Gun Club Road landfill includes a Phase II expansion of the GCCS that would be implemented to control LFG migration and emission. The approved Phase II expansion plan is shown on the attached drawings.

The City proposes to implement Phase II to expand and upgrade the existing GCCS to increase the LFG capture zone to achieve the GCCS performance objectives stated above. The captured LFG will be burned in a flare. The existing flare will be evaluated to verify if it has sufficient capacity to handle the increased LFG flow under the expanded GCCS and to ensure that the required destruction efficiency is achieved. The City will also evaluate various energy recovery options with a flare system.

The proposed expansion and upgrade of the GCCS is anticipated to be comprised of the following:

- Assess existing site conditions, including the planned future land use;
- Review and update the EPD-approved Phase II GCCS expansion plan for GCCS expansion and upgrade;
- Obtain regulatory approval and stakeholder buy-in;
- Complete design for GCCS expansion and upgrade construction ;

- Obtain regulatory approval and appropriate permit modifications,
- Install the approved GCCS system, and
- Operate and monitor the constructed GCCS system according to design,
- Maintain records and submit reports as required by permit.

The City understands that the proposal for the GCCS system upgrade and expansion, upon acceptance by EPD, could be incorporated into a final Consent Order, and the City will comply with the executed Consent Order. However, the City requests that the implementation of the GCCS expansion and upgrade be approved by EPD as a permit modification without the need for a Consent Order. The City believes that the proposed GCCS expansion and upgrade will address EPD's concerns regarding the landfill emissions, but will also provide safe conditions for future development of the landfill. The City will work with the redevelopment planners and contractors to ensure that the GCCS expansion and upgrade is implemented in accordance with the provisions of this proposal as well as any permit modification or executed Consent Order, which may result.

The City proposes that the proposed approach and activities will be completed in accordance with the attached schedule. The following briefly describes the City's proposed GCCS expansion and upgrade implementation:

Assessment of Existing Site Conditions

As the first activity under this task, the City will sample the landfill gas from the header pipes of the existing GCCS and test the samples for NMOC concentrations in accordance with the requirements under 40 CFR Part 60.754 (a)(3). The City will submit to EPD a work plan for the sampling and analysis of the LFG, and will conduct the activities in accordance with the approved plan. The City will submit the test results and an estimate of the annual NMOC emissions from the landfill based on the LFG test results together with the estimated in-place landfill waste quantity.

Furthermore, the City will conduct a thorough review of the existing site conditions and data including the following:

- Historic LFG composition, recovery rates and zone of influence observed in the existing GCCS;
- Perimeter LFG monitoring data;
- LFG characterization within the currently untapped portion of the landfill, if deemed necessary for the GCCS expansion; and
- Planned future land use scenario.

At the conclusion of this task, a Site Conditions Report will be developed to present a summary of the existing GCCS conditions, LFG characteristics and landfill redevelopment plans with respect to Phase II GCCS expansion. The report will also identify the basis and the types of modifications to the EPD-approved Phase II GCCS expansion plan to achieve the performance objective under the

current site conditions.. A preliminary determination as to whether energy recovery from the LFG is viable will also be included in the Pre-Design Report.

Review and Update Phase II Expansion Plan

This task will include review and updating of the EPD-approved Phase II GCCS expansion plan to upgrade and expand the existing GCCS system. This task will be executed based also on the system expansion strategy and approach developed amongst the stakeholders. This task will include any proposed changes and preparation of construction plans and specifications for the installation of the system.

The revised Phase II GCCS expansion plan will be submitted to EPD for review and approval. The City will also submit request for modification of the Post-Closure Care Permit and State Implementation Plan (SIP) construction/operating permit for the Phase II GCCS expansion. Resolved responses to EPD comments will be incorporated into the final Phase II expansion plan for construction.

Phase II GCCS Expansion Construction

The approved GCCS expansion and upgrade will be constructed in close coordination with the developer, and in compliance with the SIP permit, applicable rules and regulations. The constructed components and structures will be tested and verified to ensure they meet the approved quality standards and performance requirements.

Upon completion of the installation of GCCS, the City will start-up the system in a staged, incremental manner while continuously monitoring system operation until the entire GCCS is in operation. The various GCCS components will be adjusted to optimize system efficiency and effectiveness.

The City will prepare and submit a report to EPD that details the GCCS construction, start-up and optimization activities, results, adjustments or revisions to the approved system. In addition, the City will also submit to EPD an updated plan for the GCCS operation, maintenance and monitoring for compliance with the Georgia Solid Waste Regulations Chapter 391-3-4-.12 (Post-Closure Care).

GCCS Operation, Monitoring and Reporting

The constructed GCCS will be operated, maintained and monitored in accordance with the approved GCCS O&M plan, amended Post-Closure Care Permit, and the SIP permit. The City will prepare and submit to EPD the GCCS monitoring reports in accordance with the permits and the requirements under Georgia Solid Waste Regulations Chapter 391-3-4-.12 (3). The GCCS monitoring will also include landfill perimeter monitoring to determine if subsurface gas migration is occurring above the regulatory limits and safety standards.

Compliance with GCCS Performance Objectives

The GCCS will be constructed and operated to comply with the project performance objectives listed above. Specifically, the following procedures will be implemented to ensure compliance with the proposed performance objective:

1. A perimeter LFG monitoring system will be an integral part of the expanded GCCS and will be routinely monitored as required by the Georgia Solid Waste Regulations for post-closure care. In

addition, structures located on the landfill will also be monitored for LFG. In the event of exceedances of 25% of the LEL for methane within the structures located on the landfill or exceedance of LEL for methane at the site boundary, a corrective action plan will be developed for EPD approval and will be implemented to bring the landfill into compliance.

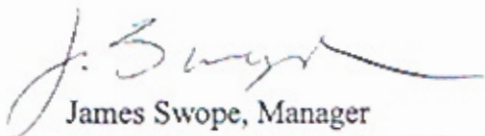
2. Upon completion of the GCCS expansion, LFG samples will be collected from the system header pipes in accordance with the requirements established under 40 CFR Part 60.754 (a)(3). The City will prepare an initial estimate of the annual VOC emissions from the landfill based on the LFG analysis, flare testing and the estimated waste volume within the closed landfill. In the event the estimated annual VOC emissions exceed the limit for major source status within a severe non-attainment area (25 tons/year) thus requiring a Title V permit, the City will develop a corrective action for EPD approval and will implement the approved plan to decrease the estimated annual VOC emissions to less than 25 tons/year. These corrective actions may include modifications to the GCCS operation and/or expansion or upgrades to the system.
3. Upon completion of the GCCS expansion, LFG samples will be collected from the system header pipes in accordance with the requirements established under 40 CFR Part 60.754 (a)(3) and analyzed for NMOC using the specified Methods 25 or 25c. The City will prepare an initial estimate of the annual NMOC emissions from the landfill based on the LFG analysis and the estimated waste volume within the closed landfill. In the event the estimated annual NMOC emissions exceed the 50 megagrams/year threshold for a GCCS, the City will develop a corrective action plan for EPD approval and will implement the approved plan to reduce the estimated annual NMOC emissions to less than 50 Megagrams/year. These corrective actions may include modifications to the GCCS operation and/or expansion or upgrades to the system.

within closed LFG

City S. Monitor Site

Waste Volume

Sincerely,



James Swope, Manager
Solid Waste Disposal Operations

- Copy: Linda DiSantis, Atlanta City Attorney
David E. Scott, PE, Commissioner Public Works
Donna Owen, CPM, Deputy Commissioner of Solid Waste Services
David Word, Environmental Protection Division

