

**BEFORE THE ADMINISTRATOR  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

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In the Matter of the Proposed Operating Permit for

SULLIVAN COUNTY

to operate a solid waste landfill  
located in the Village of Monticello, New York

Permit No. 3-4846-00079/00019

Issued by the New York State Department of  
Environmental Conservation

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**PETITION REQUESTING THAT THE ADMINISTRATOR OBJECT TO ISSUANCE  
OF THE TITLE V OPERATING PERMIT FOR THE  
SULLIVAN COUNTY LANDFILL**

I. INTRODUCTION

Pursuant to the Clean Air Act § 505(b)(2) and 40 C.F.R. § 70.8(d), Concerned Citizens of Sullivan County (“CCSC”, “Petitioner”) hereby petitions the Administrator of the United States Environmental Protection Agency (“EPA”) to object to the proposed Title V Operating Permit for the Sullivan County Landfill (“the landfill”).

CCSC is an unincorporated association whose members, live, work, shop, play, rest and breathe the air in the area of Monticello, New York, the village in which the subject solid waste landfill is located. Specifically, CCSC’s members live in a bungalow colony on Rose Valley Road each summer, within about 150 feet from the east perimeter of the landfill property.

On December 7, 2005, the New York State Department of Environmental Conservation (“NYSDEC,” “the Department”) granted a public comment period on a draft Title V permit for

the landfill which ended January 13, 2006,<sup>1</sup> and CCSC submitted comments to NYSDEC on that date, together with a technical memorandum from Alan Shimada addressing hydrogen sulfide emissions. On January 19, 2006, NYSDEC requested supplemental information from CCSC regarding hydrogen sulfide emissions, and this information was provided on January 24, 2006. These submissions are included in the administrative record for this matter.

On or about April 10, 2006, NYSDEC referred a proposed Title V permit for the landfill to EPA with minor, non-substantive changes, including responses to Petitioner's comments, and a permit report.<sup>2</sup>

On April 26, 2006, by its consultant SCS Engineers, Sullivan County responded to CCSC's comments and supplemental information. On May 15, 2006, CCSC's consultant Mr. Shimada replied to the SCS response, including a revised emissions estimate for hydrogen sulfide and supporting data compared to his January 13, 2006 data. However, Mr. Shimada's conclusion was substantially the same, that such emissions would exceed the odor threshold off site. On June 20, 2006, SCS responded to Mr. Shimada's May 15 letter and supporting data and, on July 7, 2006, Mr. Shimada replied to the June 20 SCS letter, among other things applying EPA air dispersion modeling to support his conclusions regarding ambient impacts of the landfill's expected hydrogen sulfide emissions. These exchanges are provided herewith as

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<sup>1</sup> The NYSDEC public notice of comment period in this matter is available at: <http://www.dec.state.ny.us/website/enb2005/20051207>.

<sup>2</sup> The proposed permit and permit report are available at: [http://www.dec.state.ny.us/website/dardata/boss/afs/issued\\_atv\\_q.html](http://www.dec.state.ny.us/website/dardata/boss/afs/issued_atv_q.html).

**Exhibit A.**<sup>3</sup>

This petition is timely submitted within 60 days after EPA's 45-day review following receipt of the proposed permit. The petition addresses the same three comments provided to NYSDEC during the initial public comment period in this matter.

II. SUMMARY OF THE ARGUMENT

EPA should object to the air permit as proposed and now issued for failure to support exceedence of the required oxygen concentration in at least thirteen landfill gas (LFG) wells at the landfill; for failure to control odors as required under the New York State Implementation Plan (SIP); and for failure to include a compliance schedule addressing ongoing violations of the oxygen concentration and odor control requirements.

III. BACKGROUND

The landfill has been in continuous operation since 1963 when it was the Village of Monticello Landfill. In 1994 Sullivan County began operation of "Phase I" of a new landfill adjacent to the old Village landfill after closing and capping the old landfill. The two landfill units share a common gas collection and control system (GCCS). Cell 6 of the County Landfill,

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<sup>3</sup> Digital copies of all exhibits provided on Compact Disk are enclosed herewith, including Excel, LandGEM run and PDF versions of Mr. Shimada's supporting data. Also, the referenced exchanges were submitted to propose issues in the County's Phase II state solid waste permit application, review of which by NYSDEC is pending. Those issues are not relevant to this matter, except to the extent that the issues raised involve estimating Phase I landfill emissions. Phase I and Phase II are discussed further in Section III ("Background"), below.

the final cell in Phase I, was permitted in 2005 and is undergoing construction but has not begun operation. Sullivan County is presently seeking permission for a “Phase II” landfill that would be located immediately east of, and would ultimately be physically tied into the Phase I landfill. All landfill components would continue to share a common GCCS.

The Phase I landfill obtained its first Title V operating permit effective October 30, 2000, subjecting the facility to the federal Landfills NSPS (Subpart WWW). At that time the state solid waste operating permit for the landfill limited the waste acceptance rate to 200,000 tons per year, and allowed alternative daily cover (ADC) without any volume limitation. Construction and demolition debris (C&D) was a substantial component of both waste and ADC. The proposed Title V permit limits the waste acceptance rate to 200,000 tons per year, and includes ADC within the “waste” limit. Proposed Title V Permit, Cond. 24.2. However, neither the solid waste permit nor the proposed Title V permit include any enforceable limit on the proportion of C&D allowed in waste.

Owing to a history of substantial volumes of C&D accepted at the Phase I landfill in both regular municipal solid waste (MSW) and, as crushed or pulverized C&D, in ADC materials, (see Appendix A), hydrogen sulfide emissions beyond the landfill perimeter has generated ongoing neighbors’ complaints and ongoing NYSDEC-noticed violations of the state solid waste facility permit, which requires control of off site nuisance-level odors. See Exhibit B, p. 1 (restating NYSDEC Comment #4, “Department notes continuing concerns with adequacy of odor and gas controls”). Based on site specific measurements of the concentration of hydrogen sulfide in LFG generated at the landfill, the County used a concentration value of 1,200 ppmv for total

reduced sulphur (TRS) in LFG to estimate emissions of the Phase I landfill.<sup>4</sup> This concentration is equivalent to a hydrogen sulfide concentration of 870 ppmv.<sup>5</sup> As recently as April 2006, hydrogen sulfide concentrations in the GCCS were measured at 1,060 ppm.<sup>6</sup>

In an effort to extend the life of the landfill, in 2005 the County stopped receiving most out-of-county waste. Cf. Appendix A. Nevertheless, the proportion of C&D in waste receipts increased from 18.5% in 2004 to 29.5% in 2005. Id.

To address the problem of off site odor from hydrogen sulfide emissions, in 2005 the County discontinued use of crushed C&D in ADC. However, on October 26, 2005, measurements of hydrogen sulfide at the east perimeter of the Phase I landfill (the farthest point on the perimeter from the old Village landfill, and the closest point to adjacent Rose Valley Road residences) reached 0.008 ppm, which exceeds the threshold at which the compound is commonly detected as odorous.<sup>7</sup>

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<sup>4</sup> See A.R., January 13, 2006 Shimada letter, p. 2 text at note 6.

<sup>5</sup> Exhibit A, July 7, 2006 Shimada letter, footnote 7. By contrast, the default concentration for this compound in LFG under AP-42 is 35.5 ppmv.

<sup>6</sup> Exhibit A, SCS June 20, 2006 letter, p. 2. Note this reflects an *average* H<sub>2</sub>S concentration of gas collected at all LFG wells.

<sup>7</sup> On October 28, 2005, SCS responded on behalf of the County to NYSDEC comments on air and LFG issues involving the Phase I landfill by among other things reporting the results of perimeter monitoring for hydrogen sulfide concentrations. This response is provided herewith as **Exhibit B**. See Exhibit B, p. 4 and Exhibit A thereto, p. 2 (showing perimeter monitoring point #13 on east perimeter).

IV. ARGUMENT #1: NYSDEC FAILED TO OBTAIN A SUPPORTING  
DEMONSTRATION THAT THE PHASE I LANDFILL IS OPERATING UNDER ANEROBIC  
CONDITIONS AS REQUIRED BY THE LANDFILL NSPS PROGRAM

The applicable NSPS requirement at 40 CFR § 60.753(c) requires that gas wells be operated “with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent.” Cf. Proposed Title V Permit Cond. 36.2. Exceedences of these operating parameters at particular wells may be allowed if the project proponent makes a demonstration, “show[ing] supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.” 40 CFR § 60.753(c).

By placing the disjunctive (“or”) after the demonstration requirement, the rule at paragraph 60.753(c) requires the demonstration to address *both* the potential for fires *and* destruction of methanogens. DEC has interpreted the rule at odds with its plain sense and with EPA policy, to require the demonstration to address *either* the potential for fires *or* destruction of methanogens. Proposed Title V Permit, DEC Response to Section 1 Comments. Thus DEC notes that 13 wells exceed the oxygen concentration limit, and gas temperature in these wells measured monthly over six months exceeded 100°F only three times, reaching no more than 121°F, demonstrating there is no risk of fire. *Id.* However, in other cases considering alternative oxygen concentration limits at landfill gas (LFG) wells, EPA has not allowed such high temperatures, notwithstanding the low risk of fires, unless there has been a demonstration that such temperatures do not risk killing methanogens.

“The 55 C (131 F) temperature limit promulgated at 40 CFR 60.753(c) is used to identify when the decomposition in a landfill has changed from an anaerobic mode to an aerobic mode due to the poisoning of methane production bacteria.” EPA, Applicability Determination Index (ADI) No. 0500087 (July 12, 2004) (Deans Bridge Road Municipal Waste Landfill in Georgia).<sup>8</sup> “EPA’s concern is that temperatures above the regulatory limit are indicative of a landfill fire *or* that methanogen[s] have been killed.” ADI No. 0200002 (January 11, 2002) (King George and Atlantic landfills in Virginia) (emphasis added).

EPA Region 4 approved Deans Bridge Road Municipal Waste Landfill request for an alternative oxygen concentration limit for 16 LFG wells where monitoring “indicate[d] that the temperature in these wells is *significantly less than 55 C [F 131]* even when oxygen concentration levels exceed five percent.” ADI No. 0500087 (emphasis added). In the Deans Bridge Road landfill matter 64 temperature and oxygen measurements were made at the 16 LFG wells over four months, and for nine of these measurements “well temperature ranged from 49 F to 82 F during these times when the oxygen concentration exceeded the limit in Subpart WWW.” Id.

EPA Region 3 approved a request for alternative oxygen concentration limits at two other landfills where demonstrations were provided showing

methane production at both landfills has remained high (not less than 45%). In addition, oxygen content of the landfill gas has remained below 5%. This indicates that anaerobic activity is continuing. You have also provided carbon monoxide sampling

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<sup>8</sup> ADI determinations are available at:  
<<http://www.epa.gov/compliance/monitoring/programs/caa/adi.html>>.

results that indicate carbon monoxide is less than 20 ppm at both landfills. Carbon monoxide level approaching 100 ppm would be cause for concern.

ADI No. 0200002.

EPA Region 5 approved a higher temperature operating value at American Landfill in Waynesburg, Ohio, after the landfill provided “laboratory analysis of the landfill gas samples [that] did not show elevated levels of carbon monoxide, oxygen, or other landfill gas constituents,” allowing EPA to conclude that “it appears that the methanogenic process is still at an anaerobic phase at the higher landfill gas temperatures and no evidence of subsurface landfill fire is present at the site.” ADI No. 0200061 (December 3, 2001).

Sullivan County has offered none of the demonstrations provided in these cases on the effect of higher oxygen levels on anaerobic decomposition, and EPA has never allowed higher operating temperatures at LFG wells without determining whether the landfill is in fact operating in an anaerobic condition. Because the required demonstration has not been made, EPA should object to Proposed Permit Condition 36.2 as violating 40 CFR § 60.753(c).

V. ARGUMENT #2: THE PROPOSED PERMIT FAILS TO ASSURE COMPLIANCE  
WITH SIP RULES REQUIRING CONTROL OF AMBIENT ODORS

As set forth at greater length in CCSC’s January 13, 2006 comments to NYSDEC, the Sullivan County Landfill is in ongoing violation of the EPA-approved SIP requirement to control nuisance odors emitted from its landfill. See 6 NYCRR § 200.1(d), (g); 40 CFR § 52.1679. Technical comments by Mr. Shimada on behalf of CCSC included in the administrative record



and subsequently submitted show that emission of nuisance odors can be expected to continue without additional controls. See Exhibit A, Shimada submissions of May 15 and July 7, 2006, with attachments. The subsequent Shimada submissions and data support the submissions and data provided by Mr. Shimada prior to issuance of the proposed Title V permit by NYSDEC. See A.R., Shimada January 13, 2006 letter.

In fact, the history of materials accepted and buried in the Sullivan County Landfill supports the expectation that hydrogen sulfide emissions would be even higher than estimated by Mr. Shimada. This is because Mr. Shimada's emissions estimation was based on a smaller volume of materials accepted at the landfill than can be documented.<sup>9</sup> An updated summary of waste receipts accepted at the landfill is provided in **Appendix A** hereto. The County's annual reports for the period 1998-2005 providing the basis for this summary is provided herewith as **Exhibit C**.

The comments by NYSDEC addressing this issue do not deny that odor control is an applicable requirement under Title V by virtue of its inclusion in the New York SIP. See Proposed Title V Permit, Response to Section 2 Comments. The CCSC comment letter to NYSDEC states that "CCSC members [who] live continuously in a bungalow colony on Rose Valley Road, within about 150 feet from the perimeter of the landfill property . . . have experienced increased odors from the landfill each year," (p. 1); and, [a]s a result of the elevated proportion of C&D in the County's waste receipts in recent years, the County's title V

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<sup>9</sup> Cf. Exhibit A, Shimada May 15, 2006 letter, Table 1 ("Summary of Waste Receipts, Phase I," without regard to ADC). This data on waste receipts is the basis for Mr. Shimada's July 7, 2006 clarification of his conclusions, also provided in Exhibit A.

application has applied an elevated concentration factor for sulphur compounds in the gas generated by its landfill,” (p. 3); and odor complaints are “persistent and ongoing.” However, without any support in the record, the NYSDEC response to comments asserts that CCSC’s comments “acknowledge a *reduced* incidence of odor complaints (see page 1 and 3 of Shimada attachment).” (Emphasis added).<sup>10</sup>

The substantive basis provided by NYSDEC for electing not to act on the CCSC comment request to include compliance with the landfill’s Odor Control Plan as a federally enforceable condition in the permit thus does not reject the basis for the request, that off site odor is an ongoing problem at the facility and a nuisance level of odor may not be allowed under the New York SIP, and the plan is already developed by this facility. Cf. Exhibit B, p. 6 (NYSDEC Comment #98). Instead NYSDEC states only that adding such a condition “would provide unnecessary duplication” because the state solid waste permit for this facility already incorporates the requested controls. This response is inadequate because Title V permit conditions must be federally enforceable, including enforceable by citizens in federal court. 40 CFR § 70.6(b). No additional burden to the agency or applicant would be imposed by incorporating the landfill’s state enforceable Odor Control Plan into the Title V permit.

Title V permit conditions must also “assure[ ] compliance by the source with all applicable requirements.” 40 CFR § 70.1(b). “Applicable requirements” must include sufficient monitoring and recordkeeping to assure compliance with the requirement even where the

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<sup>10</sup> The NYSDEC response citations to the Shimada attachment to CCSC’s comment letter also asserts that a reduced incidence of odor complaints is acknowledged there, but it is not.

requirement itself lacks monitoring and recordkeeping. 40 CFR §§ 70.6(a)(1), (a)(3)(i)(B), and (c)(1).

If a state air pollution control has been approved by EPA into the SIP, it is an “applicable requirement” under Title V. 40 CFR § 70.2. Subparts 200.1 and 200.6 of Title 6 of the NYSDEC air regulations have been approved by EPA into the New York SIP. 40 CFR § 52.1679. Among these provisions is the requirement to control nuisance odors under 6 NYCRR § 200.1(d) and (g).

The proposed Title V permit includes among the listed federally enforceable conditions 6 NYCRR § 200.6, which provides:

no person shall allow or permit any air contamination source to emit air contaminants in quantities which alone or in combination with emissions from other air contamination sources would contravene any applicable ambient air quality standard and/or cause air pollution. In such cases where contravention occurs or may occur, the commissioner shall specify the degree and/or method of emission control required.

6 NYCRR § 200.6.

“Air pollution” is defined for purposes of this rule as:

The presence in the outdoor atmosphere of one or more contaminants in quantities, of characteristics and of a duration which are or may be injurious to human, plant or animal life or to property or which unreasonably interfere with the comfortable enjoyment of life and property.

6 NYCRR § 200.1(g).

“Air contaminant” is defined for purposes of Subsection 200.1(g) as “[a] chemical, dust, compound, fume, gas, mist, *odor*, smoke, vapor, pollen, *or any combination thereof.*” 6 NYCRR § 200.1(d) (emphasis added).

Although the SIP odor control requirement thus appears to be included in the proposed Title V permit, (see Proposed Title V Permit, p. 2 (including 6 NYCRR § 200.6), inclusion of the requirement by itself, without further controls such as monitoring and recordkeeping for off site odors clearly fails to assure compliance with the rule because the landfill continues to emit nuisance odors.

Because it fails to assure compliance with the SIP odor control requirement, EPA should object to the Proposed Title V Permit.

VI. ARGUMENT #3: ONGOING VIOLATIONS OF THE OXYGEN  
CONCENTRATION AND ODOR CONTROL REQUIREMENTS EACH REQUIRE A  
COMPLIANCE SCHEDULE BE INCLUDED IN THE TITLE V PERMIT

As stated at greater length in CCSC's comment letter in this matter, Title V of the Clean Air Act requires an enforceable schedule be included in a Title V operating permit whenever the facility to be permitted will be out of compliance "with any applicable requirements" at the time the permit is issued. 40 CFR § 70.5(c)(8)(iii)(C). Since as shown above the County was out of compliance with the LFG well oxygen concentration requirement under the Landfills NSPS program and the odor control requirement under the New York SIP at the time the permit was issued, and in fact these violations are ongoing, EPA must object to the permit and require NYSDEC to include a compliance schedule in a revised Title V permit.

To address violations of the odor control requirement, CCSC has urged NYSDEC to incorporate into the proposed Title V permit the Odor Control Plan already prepared and required

under the state solid waste permit for this landfill. This would be the least onerous and most reasonable revision of the permit called for under Title V regulations.

A compliance schedule addressing the NSPS oxygen concentration requirement must start with a schedule for submission by the County of a demonstration that anerobic conditions have not been compromised by exceedences of the requirement. If such a demonstration cannot be made, a schedule for improvements to the GCCS, should be incorporated into a revised Title V permit.<sup>11</sup>

Dated: July 20, 2006

Respectfully Submitted,

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<sup>11</sup> I am reliably informed that such improvements are already underway.

**APPENDIX A**

**Summary of Waste Receipts  
 Sullivan County Landfill Phase I**

On July 30, 1999, the annual waste acceptance rate of the old Village Landfill and Phase I (Cells 1 through 5 only) from 1964 to 1999 was reported by the County to EPA as part of the County's initial design capacity report and NMOC emission rate report, required under 40 CFR 60 Subpart WWW. For years 1998-2004, Sullivan County's annual reports provide the annual waste acceptance rate and acceptance rate for alternative daily cover (ADC) in tons. Using the annual reports, and for 1964 to 1997 the NMOC emission rate report, and estimating C&D in waste and ADC based on the proportion of C&D in these components for 1998-2002, the County landfill contains volumes of waste, ADC and C&D (converted to Mg) as shown in the following table:

**HISTORY OF DISPOSED WASTE AND PROPOSED WASTE (Mg)**

YEAR	WASTE RECEIPTS	ADC	TOTAL WASTE AND ADC	C&D IN WASTE RECEIPTS	C&D IN ADC	TOTAL C&D
1964-1983	155,040	0	155,040	**14,729	0	14,729
1984	10,760	*4,089	14,849	**1,022	***1,370	2,392
1985	44,990	*17,096	62,086	**4,274	***5,727	10,001
1986	60,110	*22,842	82,952	**5,710	***7,652	13,362
1987	39,900	*15,162	55,062	**3,791	***5,079	8,870
1988	74,400	*28,272	102,672	**7,068	***9,471	16,539
1989	77,000	*29,260	106,260	**7,315	***9,802	17,117
1990	78,500	*29,830	108,330	**7,458	***9,993	17,451
1991	67,300	*25,574	92,874	**6,394	***8,567	14,961
1992	59,300	*22,534	81,834	**5,634	***7,549	13,183
1993	50,800	*19,304	70,104	**4,826	***6,467	11,293
1994	47,200	*17,937	65,137	**4,484	***6,009	10,493
1995	119,900	*45,562	165,462	**11,391	***15,263	26,654
1996	97,000	*36,860	133,860	**9,215	***12,348	21,563

1997	161,400	*61,332	222,732	**15,333	***20,546	35,879
1998	161,819	61,737	246,426	26,580	22,020	48,600
1999	219,275	73,447	292,722	17,054	21,074	38,128
2000	173,758	64,137	262,231	10,587	19,374	29,961
2001	188,514	79,356	267,870	14,512	27,396	41,908
2002	183,971	73,846	259,808	19,304	28,180	47,484
2003	186,139	92,755	278,894	19,855	51,255	71,110
2004	126,663	64,226	190,889	23,482	18,872	42,354
2005	69,868	26,216	96,084	20,597	0	20,597

\*Estimated based on 1998-2002 ADC as percentage of reported waste receipts (= 38%).

\*\*Estimated based on 1998-2002 C&D as percentage of reported waste receipts (= 9.5%).

\*\*\*Estimated based on 1998-2002 C&D as percentage of ADC (= 33.5%).