



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAR 25 2013

REPLY TO THE ATTENTION OF:

Rachelle Maxheimer
Project Manager
Cornerstone Environmental Group, LLC
400 Quadrangle Drive, Suite E
Bolingbrook, Illinois 60440

Re: Roxana Landfill, Inc. – Facility Identification No. 119090AAF
Request for Higher Operating Value for Oxygen for Collector 0TD1

Dear Ms. Maxheimer:

This letter is in response to your letter to the U.S. Environmental Protection Agency (EPA) dated November 30, 2012, in which Cornerstone Environmental Group, LLC (Cornerstone) requests on behalf of Roxana Landfill, Inc. (Roxana) a higher operating value for oxygen for Collector 0TD1 at Roxana's facility located at 4600 Cahokia Road in Roxana, Illinois. The facility is subject to the New Source Performance Standards (NSPS) for Municipal Solid Waste Landfills (40 C.F.R. Part 60, Subpart WWW).

In summary, EPA does not approve Cornerstone's request on behalf of Roxana for a higher operating value for oxygen for Collector 0TD1. An explanation is provided below.

Collector 0TD1

In its November 30, 2012 letter, Cornerstone stated Collector 0TD1 recorded oxygen concentrations greater than 5 percent in October and November 2012, and intermittent elevated oxygen concentrations were recorded throughout 2012. Well monitoring data from January to November 2012 was attached to the letter. In the letter, Cornerstone stated that the average oxygen concentration recorded for Collector 0TD1 from June to November 2012 was 8.75%. On behalf of Roxana, Cornerstone is requesting an operating oxygen value of 15% at Collector 0TD1.

Cornerstone's letter includes justification for the requested higher operating oxygen value. Roxana visually and physically inspected Collector 0TD1 and the ground surface and vegetative cover in its immediate proximity and found no indication of a subsurface oxidation event of visible emissions, cracked cover, or dead or dying vegetation. Additionally, the letter stated that Collector 0TD1 and its surrounding area have not been found to exhibit temperatures above

140 °F and there are no visible signs of oxidation (e.g. melted pipe, smoke etc.). Cornerstone concluded that the evidence presented supports the higher oxygen concentration request since the elevated values do not “negatively impacting the integrity of the landfill’s engineered systems, potentially causing subsurface oxidation, or hindering the anaerobic decomposition of the waste mass as it is outside the waste boundary.”

Regulatory Background

An owner or operator of a landfill subject to Subpart WWW is required to: “operate each interior wellhead in the collection system with a landfill gas temperature less than 55 °C (131 °F) and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. The owner or operator may establish a higher operating temperature, nitrogen or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.” [40 C.F.R. § 60.753(c)]

EPA’s Response

Based upon the information supplied by Cornerstone, EPA determined that the criteria for approval of a higher operating oxygen value at Roxana’s Collector 0TD1 under the provisions in 40 C.F.R. § 60.753(c) has not been met.

In order to approve a higher operating value, 40 C.F.R. § 60.753(c) requires “data that shows the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.”

Cornerstone’s letter indicated that the extraction system did not exhibit temperatures above 140 °F and there were no visible signs of oxidation. This evidence is acceptable in demonstrating the elevated oxygen value is not causing fires.

The other criteria for approval is that the higher oxygen level must not significantly inhibit anaerobic decomposition by killing methanogens. The methane concentration data submitted for Collector 0TD1 is as low as 17.4% and as high as 63.3%. Referring to several previous determinations in the Applicability Determination Index (ADI) with ADI Control Numbers 0200002, 0600081, 0800022, 0800023, 0900009, 0900030 and 1000009, acceptable methane concentrations that support anaerobic decomposition were in the 40 – 50% range. Out of the 40 well monitoring data points submitted for the Roxana landfill, only 11 data points (about a quarter) fell into this range. Of the data points that did not fall into the range, 5 were above 60% and 24 were below 40%. EPA finds that the data demonstrates that anaerobic decomposition is being inhibited.

Further, if an exceedance of a monitoring parameter limit does occur, as is the case with the oxygen values recorded at Collector 0TD1, prior to requesting a higher operating value, Roxana should provide information demonstrating they have attempted to correct the deviation in accordance with 40 C.F.R. § 60.755(a)(5), which states:

“For the purpose of identifying whether excess air infiltration into the landfill is occurring, the owner or operator shall monitor each well monthly for temperature and nitrogen or oxygen as provided in § 60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval.”

Roxana site personnel must review investigative and monitoring data and closely monitor any field conditions that would result in a violation of 40 C.F.R. Part 60, Subpart WWW.

If you have any questions regarding this letter, feel free to contact Monica Onyszko, of my staff, at (312) 353-5139.

Sincerely,



Sara Breneman
Chief

Air Enforcement and Compliance Assurance Branch

cc: Ray Pilapil, Manager
Bureau of Air – Compliance and Enforcement Section
Illinois Environmental Protection Agency