



SENECA COUNTY GENERAL HEALTH DISTRICT

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Anne Goon, MS, RD, LD, Health Commissioner

July 14, 2021

Shannon Nabors - Chief
Chief, Northwest District
Ohio Environmental Protection Agency
347 N. Dunbridge Road
Bowling Green, Ohio 43402

Re: Ohio EPA's working draft permit P0128797 - Sunny Farms Landfill

Dear Ms. Nabors,

The purpose of this letter is to both introduce myself and to provide feedback on Ohio EPA's working draft permit P0128797 for Sunny Farms Landfill in Seneca County. Beth Schweitzer, MPH, MCHES, officially retired from her position as Seneca County Health Commissioner at the end of April 2021, and I was hired by the Seneca County Board of Health to replace her. I bring 20+ years of public health experience, including eight years as Henry County Health Commissioner, to this position. I look forward to working together with Ohio EPA and its Northwest District office to ensure the health and safety of Seneca County residents, especially those residing in the immediate vicinity of Sunny Farms Landfill. I had the opportunity to tour the facility and meet with Sunny Farms' General Manager Crystal Young and several staff in early April 2021.

The Seneca County Board of Health appreciates the consideration that Ohio EPA has clearly taken to the formal and informal concerns and comments shared by Seneca General Health District with respect to air emissions, air permitting, and air compliance at the Sunny Farms Landfill. It is our intent to work in cooperation with Ohio EPA and to also use our independent oversight authority to ensure that public health is protected in Seneca County.

This letter is to share 1) feedback on Ohio EPA's working draft permit P0128797, dated April 6, 2021, and 2) remaining concerns based on the April 5, 2021, draft of Sunny Farms Landfill's Maintenance, Monitoring, and Recordkeeping Plan. Both sets of concerns are addressed below.

Draft Permit P0128797

Finding 1: Condition C.1.b)(2) on pages 6-7 of 39 includes Best Available Control Technology (BACT) conditions intended to satisfy Federal PSD requirements including the requirement to be protective of the National Ambient Air Quality Standard (NAAQS) for SO₂. In ambient air, the primary NAAQS for SO₂ is defined as being met when the 99th percentile of 1-hour daily maximum SO₂ concentrations, averaged over 3 years, is less than or equal to 75 parts per billion (ppb). The draft language specifies separate maximum SO₂ emission rate limits for normal operating conditions and for conditions of startup, shutdown, and maintenance of one treatment system. The emission rate limits are defined in terms of pounds per hour as a 24-hour daily average.

Concern: Although the percentile and annual averaging effects applied to the 1-hour NAAQS averaging do allow for occasional exceedances of the numerical standard to occur, it is not clear how emission limits defined over 24-hour averaging intervals can be related to an incongruent NAAQS standard. It would be simpler and more protective of public health to specify pound per hour limits that apply without daily averaging – especially in the context of retroactive PSD permitting.

Concern: Regardless of averaging intervals, the permit defines SO₂ emission limits applicable in two operating scenarios, but we believe a third scenario should be considered. One limit is specified for normal operating

conditions, and a second limit is specified for conditions when only partial treatment of the landfill gas is occurring, due to startup, shutdown, and maintenance conditions. These limits do not fully backstop conditions, such as malfunction where no landfill gas treatment is occurring due to malfunction or other conditions. Seneca County General Health District requests consideration of the addition of a third limit specifying an unconditional hourly emission limit.

Concern: The relationship between the normal SO₂ emission limit and the SSM emission limit and when each limit applies needs further clarification. For example, the current conditions do not define with sufficient clarity if both scenarios may occur simultaneously. There is also a typographical error in draft Condition C.1.b)(2)viii in that a "not" was omitted, such that the current language seems to suggest 497 lb/hr as a minimum emission rate rather than a maximum. A clearer way to express the intended limits could be as follows:

- vii. SO₂ emissions shall not exceed the limits specified for each of the following three mutually exclusive operating conditions:
- A) During normal operation, 35.5 lb/hr from the enclosed flare; OR
 - B) Only during periods of startup, shutdown, and maintenance when only one of the two H₂S control system trains is operational and there is only partial treatment of LFG, 497.2 lb/hr from the 125-foot open flare; OR
 - C) During all other operating conditions, combustion of landfill gas must be halted unless emissions can be demonstrated within the limits specified in either operating condition A or B above.

Finding 2: Condition C.1.d)(12) on page 16 of 39 proposes monitoring the operating temperature of the enclosed flare to ensure that it combusts collected landfill gas to appropriate levels, such as the 98% destruction efficiency intended by NSPS WWW, Cf, XXX, and NESHAP AAAA. All of those standards include consistent criteria for determining when adequate destruction is occurring.

Concern: Percentage deviation is a poor way to express or control temperature values that may cross zero or be interpreted in different units, and 5% deviation is an excessive threshold. Ohio EPA will be required to implement and enforce the NSPS/NESHAP criteria later in the course of this permit by several of these Federal regulations. As a benchmark for appropriate interim monitoring and to simplify the transition once those regulations are directly applicable, please consider the benchmark established by these standards and proven out over decades of enforcement across the MSW landfill industry as paraphrased below:

40 CFR 60.756(b)(1): The accuracy of enclosed combustor temperature monitoring must be +/- 1% in degrees Celsius or +/- 0.5 degrees Celsius, whichever is greater.

40 CFR 60.758(c)(1)(i): An reportable exceedance occurs when the 3-hour average temperature of an operating enclosed combustor is less than 28 degrees Celsius less than the average temperature recorded during the last successful performance test.

As the timing of the initial performance test is unclear and may not be prompt upon permit issuance, we further recommend setting an initial temperature threshold to be used for comparison with the exceedance criteria until a threshold is set through performance testing. We understand, via consultation with landfill subject matter experts, that 871 degrees Celsius (1600 degrees Fahrenheit) is an achievable and common benchmark for use as an interim threshold. If such an interim threshold is set, the reportable exceedance level would be (871-28=843) degrees Celsius as a 3-hour block average. Note that the newer Federal landfill rules, including NSPS XXX, NSPS Cf as implemented by the Federal Plan at 40 CFR 62 Subpart OOO, and NESHAP AAAA, all contain an error regarding the explanation of the **enclosed combustor** exceedance threshold. They all repeat the 28 degrees Celsius (C) threshold, but incorrectly include a note that a difference of 28 degrees C is equivalent to 82 degrees Fahrenheit (F). That is true in an absolute sense, but is not true in a relative sense (e.g. 1600 F is 871 C; 28 degrees C below that is 843 C; 843 C is 1550 F or a 50 degree F temperature differential). The standard was always intended as a 50 degrees F difference, and 82 is a conversion error.



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Finding 3: Condition C.1.d)(15) on page 17 of 39 specifies how SO₂ emissions from the open flare will be calculated indirectly on a continuous basis based on knowledge and assumptions about the sulfur content of the gas being combusted in the flare.

Concern: This condition merits further clarification, such as making it explicit that the “ppmv S” term is the sum of the concentrations of the sulfur compounds listed, normalized to the molecular weight of sulfur.

Concern: The input data from the H₂S CEMS is likely to be produced as ppmv but normalized to the molecular weight of H₂S. For this concentration to be used in the equation provided, it must be adjusted to the molecular weight of sulfur. To prevent confusion regarding an important condition for ongoing compliance evaluation, we propose that the conversion equation and constants be specified in the permit.

Concern: The concentration data from the H₂S CEMS is likely to be a dry basis measurement, but the flow to the open flare is likely to be a wet basis measurement. To prevent errors or confusion in compliance evaluation, please take steps to ensure that such a basis mismatch does not occur without appropriate adjustments.

Finding 4a: Overall, the landfill will be subject to newly applicable requirements of 40 CFR Part 60. By the time the permit can be finalized, Subpart WWW has been replaced as of June 21, 2021 by State or Federal Plans implementing NSPS Cf such as the Federal Plan recently promulgated as Subpart OOO to Part 62.

Concern: It appears that, with updated calculations corrected to account for inappropriate exclusion of certain types of waste such as commingled C&DD waste, the landfill exceeded the 50 megagram/year threshold of NSPS WWW several years ago, and will exceed the 34 megagram/year threshold of any plan implementing NSPS Cf requirements upon submission of the initial NMOC report. Therefore, the design, operating, monitoring, and reporting requirements of the applicable implementation plan for NSPS Cf should be incorporated into this permit in detail, taking care to ensure that requirements carried over from the Consent Order are not mistakenly codified in place of the NSPS conditions. This is of particular importance due to a perception that the Consent Order required NSPS compliance prior to direct applicability of the NSPS rules, but the Consent Order requirements were only loosely based on NSPS WWW requirements. Some Consent Order requirements were, in some ways, more stringent than NSPS WWW requirements, but other aspects of the NSPS were not addressed or enforced in a manner consistent with the original standard. For example, the northernmost portion of the facility has not been connected to the gas collection system, and is currently being allowed to vent its emissions through passive vents without emission control, which is clearly contrary to any and all relevant NSPS requirements. It appears that the entire North Unit is not being subjected to surface methane emission monitoring, which is not permissible under NSPS. Surface methane emission monitoring of the South Unit is in some ways far more stringent than NSPS requirements in terms of the spacing of the monitoring paths and concentration limit applied, but completely failed to observe the NSPS requirement for the monitoring path to specifically monitor the perimeter of the area of waste, and impermissibly excluded from monitoring areas of waste under temporary or final cover materials.

Finding 4b: As discussed in the previous item, corrected NMOC generation calculations indicate that the landfill triggered applicability of NSPS WWW several years ago, but the triggering was not recognized by the landfill or Ohio EPA at the time due to the errors having occurred at the level of interpretation of raw data, and the level of oversight being primarily at the level of final calculations. Normally, it is the design of NSPS WWW that applicability triggering of the emission control requirement by exceeding the 50 megagram/year NMOC generation threshold is recognized and

reported within a year of occurrence. Reporting the triggering then starts a 12-month deadline clock to submit a gas collection and control system (GCCS) Design Plan meeting the specifications of the NSPS and a 30-month deadline clock for the GCCS to be constructed, in operation, and in compliance with the remaining requirements of the regulation. In hindsight, this 30-month clock should have already passed if data analysis and calculations had been performed in compliance with the requirements of the portions of the NSPS that apply before the 50 megagram/year threshold is exceeded.

Concern: It does not appear to be appropriate for the landfill to be granted the full 30-month transition period allowed under NSPS WWW (historically) or NSPS Cf (going forward), as it has effectively missed that deadline already due to the erroneous reports. The landfill has already prepared a GCCS Design Plan that meets or is substantially similar to one that can meet the design requirements of NSPS WWW and NSPS Cf. The gas collection system itself is already constructed and largely operational. The purpose of the 12- and 30-month deadline clocks in these regulations is to allow for engineering design, equipment procurement, and construction to be completed, and these steps are largely complete already. Whether it is handled as a matter of permitting or enforcement, it would be appropriate to require an accelerated implementation schedule in consideration of these factors. In the opinion of our subject matter experts, it would be feasible and environmentally beneficial for the timetables to be reduced to 3 months and 12 months, respectively.

Maintenance, Monitoring, and Recordkeeping Plan and Miscellaneous Outstanding Concerns

Finding 5: The Maintenance, Monitoring, and Recordkeeping Plan (MMRP) indicates on page 8 that a GCCS Design Plan already exists, likely due to the Partial Consent Order's intent to require early compliance with NSPS requirements. On page 9, the MMRP mentions that the North Unit includes a passive GCCS.

Concern: This is an area in which the general understanding that the Partial Consent Order has required and enforced early compliance with NSPS WWW is in error. To be compliant, such a GCCS Design Plan must be certified and stamped by a Professional Engineer certifying compliance with the design specifications of 40 CFR 60.759. Observed deficiencies in current GCCS design and operation imply that the plan was not set up to comply with this standard. In particular, the North Unit is said to include a "passive GCCS". Physical inspection of the North Unit indicates that passive vents are present, which are not a GCCS. A passive GCCS conveys gas to a central destruction device (i.e., flare) passively from the pressure produced by the waste decay itself. The GCCS present at the north end of the North Unit is series of passive vents that relieve the produced gas by venting it to the atmosphere without emission control. This venting is almost never allowable under NSPS emission control requirements. Describing this area as a "passive GCCS" indicates a lack of understanding of GCCS design and landfill emission control requirements. Please ensure that the GCCS is upgraded to comply with all applicable NSPS requirements and its Design Plan is stamped accordingly by a Professional Engineer.

Finding 6: Page 9 of the MMRP indicates that maximum expected flow in the GCCS is 6,071 scfm. The backup (open) flare is rated at 4,500 scfm.

Concern: The Consent Order specified that the facility was to construct ONE backup control device unit that can handle the entire flow. It appears this flare is undersized. Sunny Farms Landfill needs to discuss further how they will handle an outage of the enclosed flare given this undersizing. At a minimum, they need to include provisions that prevent sending 6000 scfm to the 4500 scfm flare, because there is no "bright line" in flares that keeps them from exceeding design capacity. Without some engineering controls, the GCCS blowers will typically push all the gas through that flare. Under such over-driven conditions, it will potentially exceed the exit velocity limits in the NSPS (40 CFR 60.18) and fail to achieve 98% destruction efficiency.

Finding 7: Although it is not explicitly required by the NSPS, landfill gas collection wells typically need periodic replacement or other maintenance due to settlement, siltation, liquid perching, and "raising" as needed to avoid burial



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of the wellhead in normal filling operations. In the absence of monitoring and corrective actions taken for these issues, wells typically cease to function effectively for gas collection, and yet may do so without causing exceedances at the wellheads with respect to their monitoring limits. When the perforations are blocked by silt and/or liquid, the wells cease to function as wells and are simply a closed volume of trapped gas. It is a common best practice throughout the landfill industry to sound each well 1-4 times per year to evaluate depth to bottom, depth to liquid, and the amount of available perforated casing in order to ensure that wells continue to function as intended. This is done voluntarily in many states, though some states have started to require it and consider it a deviation to allow a well to cease to function through these mechanisms under the logic that to do so is to fail to operate the gas collection system. Furthermore, examination of the facility's monthly wellhead monitoring records suggests that it has widespread problems of this type and a significant proportion of wellheads are completely closed.

Concern: An array of inoperable gas collection wells that are connected to vacuum pipes through a series of closed valves does not constitute operating a GCCS as an emission control system even in a basic engineering sense, much less satisfying the NSPS requirements. Failure to take care to collect this gas in accordance with a proper engineering design may constitute an undetected violation of Consent Order requirements and is an unnecessary risk to public health through uncontrolled H₂S emissions. The surface methane emission monitoring requirements of the NSPS normally serve as a degree of "checks and balances" to detect such issues, but the facility has also convinced themselves that the NSPS surface methane monitoring requirements are only in effect in active cells that do not have final cover or interim synthetic cover. This is impermissible under the NSPS guidance; surface methane monitoring is required over all areas of waste in the MSW landfill except where it is too dangerous to do so. A significant number of well-known US EPA memos are available on EPA's web site regarding this aspect of the surface methane monitoring requirements of the NSPS; these memos make it clear that these practices have never been allowed. The combination of the well maintenance issues and the incomplete surface methane monitoring suggests significant amounts of landfill gas are going uncollected and undetected. As such, Seneca County General Health District requests consideration of additional permit conditions specifying 1) periodic monitoring of well conditions through sounding is required, and 2) corrective action timetables for when any required well is being operated with less than 75% of its engineered perforation available for gas exchange with the surrounding waste. It may also be desirable to codify additional conditions that prevent any future confusion regarding areas that have been a problem in the past, such as the requirement to actively collect gas from all areas of regulated waste and the specifications for how surface methane monitoring are to be conducted, such as the impermissibility of waiving monitoring for major portions of the facility due to cover material being in place. The vast majority of NSPS-regulated landfills conduct surface emission monitoring over nearly the entire area of waste, with exclusions typically limited only to the most-active haul roads, 1:4 or steeper slopes, and sometimes the working face. The monitoring path must include both the perimeter of the waste area and the interior traversing pattern. In accordance with the newer landfill emission standards (NSPS Cf, XXX, and NESHAP AAAAA), surface methane monitoring should also include specific checks of every cover penetration in addition to the perimeter and traversing pattern.

Finding 8: The backup open flare will likely not be operated regularly, but flares are much like engines and tend not to be reliable when not operated regularly.

Concern: Some consideration should be given to regularly exercising the open flare for readiness testing and to ensure it remains operable.

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Finding 9: Overall, the MMRP needs to be expanded to more clearly and explicitly document the compliance plan for each NSPS requirement. Thus far, the Consent Order's plan to require early compliance with NSPS WWW has been of limited effectiveness because it attempted to implement the NSPS by quoting a limited paraphrase of the NSPS requirements, but missed many other NSPS requirements and did not include a general requirement to comply with the entire standard. Therefore, the preliminary compliance efforts undertaken so far have only addressed a subset of the NSPS provisions, and the remainder of the NSPS provisions was not addressed. Additionally, all of the Federal landfill regulations are in the middle of a significant overhaul, with old regulations being revised or replaced with new regulations. Therefore, landfills are in a time of significant regulatory change that is confusing and difficult to navigate.

Concern: As the Federal Plan for implementation of NSPS Cf was published in May 2021, it appears that the regulatory uncertainty around these regulations is ending. Additionally, the facility has now been determined to exceed the NMOC generation threshold triggering emission controls under one or more of these regulations, and that corrected calculations of NMOC generation indicate that these thresholds were actually exceeded several years ago. Therefore, there is no room to tolerate further confusion or errors. The MMRP and draft permit should be expanded and amended to identify which regulations are applicable as of which dates, be it through normal regulatory applicability or Consent Order provisions. The permit and MMRP should be designed to ensure that the provisions deemed applicable are implemented as required, and that such compliance is monitored and reported on in the level of detail specified by the regulations through submission of periodic monitoring reports providing the compliance information specified in the applicable reporting requirements [e.g. 40 CFR 60.757(f), 40 CFR 62.16724(h), 40 CFR 63.1981(h) as amended March 26, 2020].

I appreciate Ohio EPA's consideration of the concerns outlined in this letter, and I would welcome an opportunity to meet together to discuss these concerns. I can be contacted at (419) 447-3691, ext. 6304, or via email at agoon@senecahealthdept.org.

Sincerely,

Anne Goon, MS, RD, LD
Seneca County Health Commissioner

cc: Christopher Lund, PE, Project Principal -Gershman, Brickner & Bratton, Inc.
Austin Nainiger, EHSIT- Seneca County General Health District
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