



REGION 3

PHILADELPHIA, PA 19103

Laura Socia
Director- Solid Waste
City of Bristol, VA
2655 Valley Drive
Bristol, Virginia 24201
laura.socia@bristolva.org

Re: Request for Landfill Gas Wellfield Higher Operating Value Approval and
Request for Renewal of Landfill Gas Wellfield Higher Operating Value Approvals
Bristol Integrated Solid Waste Management Facility – Bristol, Virginia

Dear Laura Socia:

The United States Environmental Protection Agency (EPA), Region 3, is in receipt of electronic letters dated June 10, 2024, and July 26, 2024, prepared by SCS Engineers (SCS) on behalf of the City of Bristol ("The City") requesting approval for a higher operating value (HOV) for temperature for two select landfill gas (LFG) extraction wellheads and renewal to existing HOV for temperatures previously approved at twenty-one select LFG extraction wellheads located at the Bristol Integrated Solid Waste Management Facility ("Bristol Landfill" or "Facility") (Title V Permit No. SWRO11184) in Bristol, Virginia.

The Bristol Landfill is a municipality-owned solid waste landfill that began operation in the early 1990s and holds a Title V Permit No. SWRO11184, issued to the Facility (Registration number 11184) on March 13, 2021, by the Virginia Department of Environmental Quality (VADEQ). As a solid waste landfill, the Facility was subject to the rules found at 40 CFR Part 60 Subpart WWW until July 23, 2020, when EPA approved Virginia's state plan, which implements 40 CFR Part 60 Subpart Cf through 9VAC5-40 Article 43.1 including provisions to install and operate a gas collection and control system (GCCS) for the purposes of capturing landfill gases (LFG) and treating and combusting those gases. The provisions of the landfill rules are also incorporated into the Facility's Title V Permit. Historically, Bristol Landfill partnered with Ingenco to combust the landfill gas in turbines to produce electricity; however, as of May 1, 2024, the Ingenco facility ceased operations and no longer partners with the Bristol Landfill. Bristol owns and operates a flare system for LFG combustion. The landfill rules include compliance provisions for the LFG control system to ensure LFG is fully combusted, including use of an open flare, a system designed to reduce the non-methane hydrocarbon (NMOC) emissions by at least 98%, or a system that fully processes the LFG for resale.

The landfill rules require monitoring at each landfill gas well, which must meet standards for pressure, temperature, and either nitrogen or oxygen content. The temperature limitation in the rule is 62.8°C (145°F); however, if a landfill measures temperatures that exceed 145°F, it may request a higher operating value (HOV) for each exceeding well. The June 2024 Letter from SCS, indicates the Facility has identified two LFG extraction wells (EW-49 and EW-66) that are exceeding the 145°F temperature limit. The Facility has investigated the cause of the temperatures, and indicated in the June 10, 2024, letter that there is no indication of a fire (i.e., no smoke, or burning smells) and that the historical temperature data recorded at the two wells is fairly uniform and consistent, which implies the wellfield is well balanced. Although the temperature values often exceed 63°C (145°F). The Facility indicates that it believes the conditions present in the vicinity of wells EW-49 and EW-66, specifically low oxygen, low carbon monoxide (CO), reduced methane concentrations, elevated hydrogen, and elevated temperatures, suggest that this zone of the waste mass is experiencing a tendency to remain in the acid-forming stage of landfill gas production. However, the presence of some methane indicates that methanogenesis associated with anaerobic decomposition is occurring at these wellheads. The Facility believes continued LFG extraction at these locations will remove heat and relieve pressure from these areas, which are the fundamental response actions to these circumstances. Specifically, the Facility has requested establishing the following HOVs for temperature:

EW-49 ≤ 165°F

EW-66 ≤ 165°F

In a letter dated July 26, 2024, Bristol Landfill requested renewal of the existing HOV for temperatures previously approved at twenty-one select LFG extraction wellheads located at the Bristol Integrated Solid Waste Management Facility. In addition, the Facility requested the removal of the expiration dates associated with the HOVs. The previously approved HOVs along with the expiration dates are listed in the table below.

| LFG Well | HOV Temperature | Expiration date ¹ |
|-----------------------|-----------------|------------------------------|
| GW/EW-37 ² | 165°F | 7/27/24 |
| GW/EW-52 | 160°F | 1/9/25 |
| GW/EW-53 | 180°F | 9/28/24 |
| EW-54 | 190°F | 4/1/25 |
| EW-57 | 180°F | 7/27/24 |
| EW-61 | 180°F | 9/28/24 |
| EW-64 | 160°F | 1/9/25 |
| EW-67 | 180°F | 7/27/24 |
| EW-77 | 165°F | 4/1/25 |
| EW-80 | 165°F | 4/1/25 |
| EW-81 | 175°F | 1/9/25 |
| EW-83 | 190°F | 4/1/25 |
| EW-84 | 180°F | 9/28/24 |
| EW-85 | 175°F | 1/9/25 |
| EW-86 | 160°F | 9/28/24 |
| EW-88 | 190°F | 4/1/25 |
| EW-89 | 185°F | 1/9/25 |

| | | |
|--------|-------|---------|
| EW-90 | 180°F | 9/28/24 |
| EW-91 | 175°F | 1/9/25 |
| EW-97 | 175°F | 4/1/25 |
| EW-99 | 160°F | 1/9/25 |
| EW-100 | 170°F | 9/28/24 |

¹ Or following the completion of landfill closure in the area of the wells whichever comes first.

² GW/EW-37 was decommissioned in 2023 and was not included in the July 26, 2024 HOV renewal request.

An amendment to the March 28, 2023, Consent Decree between the Commonwealth of Virginia and The City of Bristol, VA was issued March 15, 2024, extending the deadline to install the Ethylene Vinyl Alcohol (EVOH) cover system. The EVOH cover system is required to be installed once an acceptable rate of settlement has been reached, but not to exceed December 1, 2026.

Due to the evolving situation and ongoing construction at the site, EPA grants approval of the HOV temperatures as requested for EW-49 and EW-66. EPA also grants approval of the renewal request for the 21 HOVs previously approved; however, should temperatures be measured greater than the approved HOVs specified above, all provisions of 40 CFR Part 63 Subpart AAAA will be applicable again. EPA does not grant the removal of expiration dates to the HOVs; approval of the HOVs listed herein will expire December 1, 2026, or 1-year after significant closure of the Bristol Landfill whichever occurs first. The following table summarizes all the valid HOV temperatures for the Bristol Landfill:

| LFG Well | HOV Temperature | Expiration date |
|----------|-----------------|---|
| EW-49 | 165°F | December 1, 2027, or 1-year after significant closure |
| GW/EW-52 | 160°F | December 1, 2027, or 1-year after significant closure |
| GW/EW-53 | 180°F | December 1, 2027, or 1-year after significant closure |
| EW-54 | 190°F | December 1, 2027, or 1-year after significant closure |
| EW-57 | 180°F | December 1, 2027, or 1-year after significant closure |
| EW-61 | 180°F | December 1, 2027, or 1-year after significant closure |
| EW-64 | 160°F | December 1, 2027, or 1-year after significant closure |
| EW-66 | 165°F | December 1, 2027, or 1-year after significant closure |
| EW-67 | 180°F | December 1, 2027, or 1-year after significant closure |
| EW-77 | 165°F | December 1, 2027, or 1-year after significant closure |
| EW-80 | 165°F | December 1, 2027, or 1-year after significant closure |
| EW-81 | 175°F | December 1, 2027, or 1-year after significant closure |
| EW-83 | 190°F | December 1, 2027, or 1-year after significant closure |
| EW-84 | 180°F | December 1, 2027, or 1-year after significant closure |
| EW-85 | 175°F | December 1, 2027, or 1-year after significant closure |
| EW-86 | 160°F | December 1, 2027, or 1-year after significant closure |
| EW-88 | 190°F | December 1, 2027, or 1-year after significant closure |
| EW-89 | 185°F | December 1, 2027, or 1-year after significant closure |
| EW-90 | 180°F | December 1, 2027, or 1-year after significant closure |
| EW-91 | 175°F | December 1, 2027, or 1-year after significant closure |
| EW-97 | 175°F | December 1, 2027, or 1-year after significant closure |
| EW-99 | 160°F | December 1, 2027, or 1-year after significant closure |
| EW-100 | 170°F | December 1, 2027, or 1-year after significant closure |

While EPA, in cooperation with VADEQ, formulated this approval in order to alleviate some of the temperature issues at the facility, the Agency strongly cautions Bristol Landfill to use care when addressing the elevated temperature in the wells. It is important for Bristol Landfill and their contractors to ensure that air intrusion into the sub surface reaction (SSR) areas is tightly controlled to prevent a fire. A landfill fire would be a poor outcome at this type of facility and is extremely difficult to control. Further, nothing in this approval relieves Bristol Landfill or the City of Bristol, of compliance with the Title V Permit, the landfill rules, or any other applicable rule enforceable by EPA and/or VADEQ. If you have any further questions, please contact Alex Everhart, Environmental Scientist, at Everhart.Alex@epa.gov or 215-814-2114.

Sincerely,

KAREN
MELVIN

Digitally signed by
KAREN MELVIN
Date: 2024.09.18
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Karen Melvin, Director
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cc:

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Renewal of Landfill Gas Wellfield Higher Operating Value Approvals Response

Everhart, Alex <Everhart.Alex@epa.gov>

Wed 9/18/2024 11:55 AM

To:laura.socia@bristolva.org <laura.socia@bristolva.org>

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📎 1 attachments (206 KB)

Bristol Landfill_Temperature HOV Renewal Request_ Response 9.18.2024.pdf;

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Hi Laura,

I have attached EPA's response to the letters dated June 10, 2024, HOV Request, and July 26, 2024, HOV Renewal Request. If you have any questions just let me know.

Thanks!



Alex Everhart

Enforcement Inspector

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