



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF RESEARCH AND DEVELOPMENT
CENTER FOR ENVIRONMENTAL SOLUTIONS & EMERGENCY RESPONSE
TECHNICAL SUPPORT COORDINATION DIVISION
ENGINEERING TECHNICAL SUPPORT CENTER
CINCINNATI, OHIO 45268

18 July 2022

MEMORANDUM

OFFICE OF
RESEARCH AND DEVELOPMENT

SUBJECT: Bristol Integrated Solid Waste Management Facility - Bristol, Virginia [EPA FRS ID: 110013955559], Technical Review of Bristol ISWMF Plan of Action

FROM: David Gwisdalla, Director
Engineering Technical Support Center

TO: Erin Willard, Environmental Scientist
USEPA, Region 3, Enforcement & Compliance Assurance Division

EPA Region 3 requested ORD's review of the Bristol Integrated Solid Waste Management Facility's report to supplement the Region's review. Deficiencies at the facility are proposed to be addressed in an action plan developed by the City of Bristol's contractor based upon the findings of an expert panel report completed in April of 2022. ORD's detailed comments are presented in Table 1, below from the review of the "Bristol Integrated Solid Waste Management Facility Plan of Action in Response to Expert Panel Report" (dated July 6, 2022). Overall, the impression by the reviewers was that the design and approach of the plan are appropriate, but the execution will be challenging.

Thank you for the opportunity to support the Region with this review. If you have any questions based upon our comments below, please feel free to contact me at gwisdalla.david@epa.gov, or 513-569-7011.

cc: Harry Daw, EPA Region 3, RCRA Programs Branch Chief
Jonathan Essoka, EPA Region 3 STL

Disclaimer: This memorandum contains scientific observations provided in response to a request for technical support with limited scope. The observations herein are intended to address specific scientific questions posed to researchers and/or consultants with applicable experience. Therefore, the observations are written for a specific scientific audience within a U.S. EPA Regional office. The observations provided are intended to assist the Region with relevant and innovative science and engineering to help meet site-specific environmental goals. The review was conducted to the best of our ability based on the information provided. This memorandum is not to be considered the only source of information for decision making, nor should the information provided here be parsed. It would be advisable to consider this memorandum in conjunction with multiple lines of evidence including history, experience of site managers, and other pertinent information available to U.S. EPA Regional staff that retain the duties and responsibilities of all decisions and regulatory actions at the site.

Table 1. ORD's Comments.

Page No.	ORD Comments
Section 3.2	<p>There was great discussion of monitoring (e.g., installation of thermistors for internal temperature measurements, expansion of gas collection wellfield, increasing Gas Collection and Control Systems (GCCS) collection at existing wells) but little on reporting of that monitoring information either to R3, VDEQ, or the public. In section 3.2.3 there is reference to a public facing website operated by the City for communication information about the landfill and this plan of action emphasizes transparency. Alternately, some of the more technical information (e.g., landfill gas data) may not be all that useful to the public. They may not know what to make of elevated internal temperatures, or the gas composition data, etc.</p>
N/A	<p>It is unclear if data from the thermistors would also be reported to VDEQ/R3 or would just be reported to the landfill operator (the City). It is up to R3 and VDEQ to determine if they want that data to be monitored and reported to them also or just monitored by the operator and their contractors.</p> <p>An example of public reporting of the proposed monitoring data is Bridgeton landfill which has a repository of reports on a public facing website. Data is submitted by the operator to the state, the state hosts the reports at https://dnrservices.mo.gov/bridgeton/</p>
A-1	<p>Appendix A notes that gas wells GW-46 and 47 are under a higher operating value (HOV) variance of non-compliances with New Source Performance Standards (NSPS) requirements for temperature (and maybe carbon monoxide (CO)?). These bi-weekly reports are submitted to R3 and VDEQ.</p>
N/A	<p>These are long-lasting reactions (decades) and so conditions may or may not improve for some time and the HOVs may continue. ORD is not making a recommendation on the disclosure of data to the public. If the City were to make all the information publicly accessible, like the Bridgeton example, then the types of data available may also be helpful for R3 or VDEQ to see that information and understand if conditions are improving or deteriorating. The installation of new gas wells may lead to more HOV variances because they now have more points of compliance. Hydrogen gas has been detected in those elevated temperature wells and is not normally quantified with standard landfill gas meters. There may be value in monitoring for hydrogen as well as CO in gas wells that do not (yet) show elevated temperatures. They can be leading indicators of reactions and temperatures measured at the wellhead are compliance points but not representative of internal conditions.</p>