MARYLAND DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION ADMINISTRATION

FINAL DETERMINATION CONCERNING A PERMIT-TO-CONSTRUCT APPLICATION SUBMITTED BY US ARMY GARRISON – FORT DETRICK FOR THE INSTALLATION OF TWO (2) MEDICAL WASTE INCINERATORS AND ONE (1) NATURAL GAS FIRED EMERGENCY GENERATOR.

I. INTRODUCTION

The Maryland Department of the Environment (the "Department") received an application from US Army Garrison – Fort Detrick on October 29, 2024 for a Permit to Construct for the installation and operation of two (2) new multiple chamber medical waste incinerators (MWI) each with a rated capacity of burning 550 lb/hr, equipped with air pollution control systems, & one (1) natural gas fired emergency generator rated at 1000 kW. The proposed project will be located at 8425 Navy Way, Fort Detrick, MD 21702.

On February 26, 2025, an informational meeting was held at the Hampton Inn and Suites Frederick Fort Detrick located at 1565 Opossumtown Pike, Frederick, MD 21702 to provide interested parties opportunities to discuss with the Company and the Department the permit application and the proposed installation.

After reviewing the application and other pertinent information, the Department made a tentative determination to issue a permit-to-construct that would authorize construction of the installation as proposed in the Company's applications. A draft permit with draft conditions was made available for public review on the Department's website. A Notice of the Tentative Determination, Public Hearing, and Opportunity to Submit Written Comments was published in the Frederick News-Post on October 8, 2025, and again on October 15, 2025.

On October 29, 2025, a hybrid public hearing was held at the Hampton Inn and Suites Frederick Fort Detrick located at 1565 Opossumtown Pike, Frederick, MD 21702 to provide interested parties an opportunity to comment on the Department's tentative determination and draft permit conditions, and/or to present other pertinent concerns about the proposed installation.

II. COMMENTS RECEIVED AND THE DEPARTMENT'S RESPONSE

The public comment period on the application initially expired on November 7, 2025, but was extended until January 6, 2026, following public request for a one-time, 60-day extension. The comments received at the public hearing, and those submitted in writing during the public comment period, expressed concerns about the impact of the proposed new installation on the surrounding community. The Department's responses to the comments are attached.

III. DEPARTMENT'S FINAL DETERMINATION

The Department has reviewed the application and the comments received and has determined that the proposed installation would not cause violations of any applicable air pollution control regulations.

The Department has made a final determination to issue the permit-to-construct. A copy of the final permit to construct conditions is included in the public docket.

MARYLAND DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION ADMINISTRATION
RESPONSE TO COMMENTS
FOR
US Army Garrison – Fort Detrick
201 Beasley Dr., Suite 230
Fort Detrick, MD 21702

Hearing Date: October 29, 2025
Hampton Inn & Suites
Frederick-Fort Detrick
1565 Opossumtown Pike
Frederick, MD 21702

Purpose of the Hearing:
The purpose of the public hearing was to receive comments on the Maryland Department of the Environment's (MDE or the Department) Tentative Determination for an air quality permit to construct (PTC) for the installation of two (2) medical waste incinerators and one (1) natural gas fired emergency generator to be located at U.S. Army Garrison – Fort Detrick, 8425 Navy Way, Fort Detrick, Maryland 21702.

Attendance:
Six (6) members of the general public attended the hearing either in person or online. The hearing was also attended in person by District 3 State Delegate Kris Fair, and Frederick County Councilmember MC Keegan-Ayer.

The following people representing US Army Garrison – Fort Detrick (Fort Detrick) attended the hearing either in person or online: Mr. Gary Zolyak, Mr. Joseph Gortva, Mr. Kevin Anderson, Ms. Connie Ramsey, Mr. Jonathan Wood, Ms. Heather Cisar, Ms. Laura Schumann, Mr. Paul Morano, and Mr. Donald Tompkins. Ms. Shannon Heafey of the Air and Radiation Administration (ARA) of the Maryland Department of the Environment (MDE or the Department) presided as Hearing Officer. Mr. Mario G. Cora, Chief of the Combustion and Metallurgical Division, and Mr. Nischal Subedi, Project Engineer, both presented ARA's hearing statement. Ms. Camaron Nelms from For the Record, Inc. served as the hearing's court reporter.

Comment Period:
The comment period was open from October 29, 2025 through January 6, 2026, following a request for a one-time 60-day extension to the initial 30-day comment period. Comments were received from the public both at the hearing and in writing during the comment period. Some comments included references to, or copies of, publications such as newspaper articles, blogs, or study reports. The Department reviewed these references as part of our effort to evaluate and respond to the comments. MDE's assessment of these materials are addressed in the responses

to each comment below, as applicable. The public hearing transcript and written comments received are enclosed with this document.

Index:

Comments received for the indexed category and their associated responses are provided below. In addition to adverse comments received as indicated in the Index on the following page, the MDE received one comment expressing support for the project for the following reasons: The project represents a vital upgrade to outdated equipment, enabling Fort Detrick to safely and effectively manage regulated medical waste generated from its essential biodefense and medical research activities. Modern incinerators with advanced emissions control will ensure compliance with current Clean Air Act standards, reducing potential environmental impacts while supporting national security priorities.

Comment 1 – Fort Detrick Permit to Construct

The commenter is writing on behalf of the U.S. Army Garrison – Fort Detrick (Fort Detrick) to provide comments on the draft Permit to Construct for two new medical waste incinerators. Upon review of the draft Permit to Construct, Fort Detrick respectfully requested that Conditions 5 and 6 of Part C in the permit be revised to remove the requirement to install continuous emissions monitoring systems (CEMS) for sulfur dioxide (SO2) and nitrogen oxides (NOX) emissions. Fort Detrick also requested the removal of continuous automated sampling systems (CASS) for dioxin/furan emission, listed in Part C as well. As an alternative, Fort Detrick is requesting to

comply with the stack testing requirements for SO2 and NOX and dioxin/furan emissions already prescribed by the Environmental Protection Agency (EPA) in the federal New Source Performance Standards (NSPS), 40 CFR 60, Subpart Ec applicable to this project.

MDE Response:
MDE acknowledges the comments submitted by Fort Detrick regarding a request to modify Conditions 5 and 6 of Part C in the draft Permit to Construct as it pertains to the use of CEMs for SO2 and NOX, and CASS for dioxin/furan emissions. Based on the justification below, MDE has removed these requirements; however, the requirement to use CEMS for monitoring carbon monoxide (CO) remains as it serves as a critical indicator that the incinerator is operating correctly and achieving complete combustion.

To review the request, MDE confirmed the requirements listed in the applicable rule (40 CFR Part 60, Subpart Ec), which lists the federal requirements for Hospital/Medical/Infectious Waste Incinerators (HMIWI). Subpart Ec requires Continuous Emissions Monitoring Systems (CEMS) for carbon monoxide (CO), and periodic stack testing via EPA Reference Methods for other pollutants as follows:

- NOX: EPA Reference Method 7 or 7E of appendix A-4 of Part 60 (40 CFR 60.56c(b)(7))
- SO2: EPA Reference Method 6 or 6C of appendix A-4 of Part 60 (40 CFR 60.56c(b)(8))
- Dioxin/furan: EPA Reference Method 23 of appendix A-7 of Part 60 or CASS (40 CFR 60.56c(b)(11))

As stated in the federal rule for HMIWI, the use of CASS for dioxin/furan is shown as an alternative sampling method in 40 CFR 60.56c(b)(11) but is not required by EPA. Furthermore, the rule does not identify CEMS as an alternative monitoring method for SO2 or NOX emissions.

The commenter's request to align the permit with these federal standards specifically by removing the CEMS requirements for SO2 and NOX emissions and the CASS requirements for dioxin/furan emissions have been evaluated by MDE, against both the federal requirements as well as state-level oversight needs.

In its evaluation, MDE has found that the monitoring and testing requirements as stated in the federal rule through the use of stack emissions testing conducted using EPA Reference Methods, provides a reasonable and practical framework for demonstrating compliance with the applicable NOX, SO2, and dioxin/furan emissions standards in the HMIWIs, without the need of CEMS and CASS.

While MDE acknowledges that CEMS are often viewed by the public as the best method to show compliance with emission standards, especially for large scale industrial installations/operations [i.e., municipal waste combustors (MWCs) and power plants], imposing this requirement across all pollutants for a smaller Hospital/Medical/Infectious Waste Incinerator (HMIWI) is neither environmentally nor economically justified. Large facilities/operations tend to produce significantly large levels of air emissions. As such, the EPA has required the installation and use of CEMS

under appropriate EPA regulations for either continual compliance determination or determination of exceedances of the standards for various large emission industrial sectors. When compared to large emitters, HMIWI produces significantly lower emissions. It would be cost prohibitive to require Fort Detrick to operate optional CEMS in addition to the extensive emissions control system and periodic stack emissions testing.

It is pertinent to reiterate that EPA requires the installation and use of CEMS for monitoring CO emissions for HMIWI. CEMS to monitor CO emissions levels are used as a surrogate to track proper incineration and combustion practices. During complete combustion, waste is efficiently and fully converted into harmless carbon dioxide and water vapor. Conversely, incomplete combustion is typically caused by inadequate temperature, time, or oxygen produces CO and other unburned pollutants. As such, CO concentration is a direct, immediate indicator of whether complete combustion is occurring in the incinerator. The continuous monitoring of CO emissions and compliance with the prescribed emissions standard in the permit provides a means and a reliable method to track proper incineration (near complete combustion).

In the case of Fort Detrick, the CEMS system will continuously measure, track, and report CO levels, providing real-time verification that the incinerator is operating at peak efficiency to destroy hazardous compounds (complete combustion).

Furthermore, MDE found that the assumptions taken by the Permittee to determine the emission for other pollutants (NOX, SO2, Dioxin/Furan) were appropriate, and significantly lower when compared to large incinerators (i.e., MWCs). HMIWI processes are strictly controlled with low-volume waste streams that yield a predictable emissions profile, unlike the variable waste streams of municipal incinerators.

Fort Detrick inadvertently included the use of CEMS for SO2 and NOX in their original permit application, and as mentioned earlier, federal regulations do not actually require them. As such MDE has revised Conditions 5 and 6 of Part C of the permit, replacing the continuous emission monitoring requirements for NOX, SO2, and CASS for dioxins/furans with the prescribed EPA stack testing protocols as stated in the revised permit conditions. This adjustment maintains regulatory consistency with federal standards while ensuring that the facility remains accountable through rigorous, standardized performance testing. The requirement for CO CEMS will remain in the permit as required by federal law and supported by the commenter's application.

Comment 2 – Control of Air Emissions and Air Quality Impact

The commenter requested information on any incinerator data available for the air pollution control system, the expected increase in local particulate pollution, as well as greenhouse gases (GHG) due to the incinerators being installed.

Specifically, the commenter asked "how will emissions from these incinerators be prevented from impacting air quality in surrounding neighborhoods?"

The commenter stated that no carbon dioxide (CO2), NOX, SOX, fine particles (PM2.5), nor plastic residuals (e.g., dioxins) should be discharged from Area A (or any other part of Fort Detrick and MDE should not allow construction and operation of any medical waste incinerator unless all the compounds noted above are completely captured and disposed of through specific hazard treatment technologies.

MDE Response:
Although Fort Detrick as a whole is a major source of air pollution and is required to maintain a federal Title V – Part 70 Operating Permit, emissions from this project do not trigger major source air permitting requirements for any pollutants, including GHG.

Following a comprehensive engineering and air quality review, MDE has concluded that the proposed project will comply with all applicable federal emission standards and will not contribute to a violation of any National Ambient Air Quality Standards (NAAQS). Furthermore, as detailed in the technical tables (below) of the Fort Detrick tentative determination, all predicted State toxic air pollutant emissions are significantly lower than their respective allowable screening levels.

The Permittee plans to install two (2) multiple-chamber medical waste incinerators (MWI), each featuring a rated capacity of 550 lb/hr, which are engineered to achieve lower emission levels when compared to the units previously operated on-site between 1995 and 2018. To mitigate the release of NOX, CO, volatile organic compounds (VOC), particulate matter (PM2.5 and PM10), SO2, greenhouse gases (GHG, primarily CO2), and federal hazardous air pollutants (HAPs), the MWI utilizes advanced burner designs and a sophisticated Air Pollution Control (APC) system manufactured by Envitech.

The integrated high efficiency control train utilizes a multi-stage sequence to treat hot flue gas from an incinerator. The process begins with a Quench Section that utilizes thermostatically controlled water sprays to cool hot flue gases to adiabatic saturation temperatures, followed by a Condenser/Adsorber Section where sodium hydroxide injection and packing media remove acid gases and sulfur oxides (SOX). To further enhance pollutant recovery, a Sub-Cooling System utilizes a plate-and-frame heat exchanger to drop temperatures below saturation levels, facilitating the removal of particulate matter (PM) and heavy metals. This is bolstered by a high-pressure Venturi Particulate Removal Section and an Entrainment Separator that filters out liquid droplets before they reach downstream components. Final polishing of the exhaust is handled by a High Efficiency Fabric Filter Unit for sub-micron PM and a Deep-Bed Carbon Adsorber Unit, which uses powdered activated carbon to capture mercury and dioxins through passive adsorption, all while an Induced Draft (ID) Fan maintains the necessary flow to pull the treated gases through the system.This comprehensive system ensures that the final exhaust gas comprising the removal of heavy metals, acid gases, and organic toxins meets all regulatory standards before exiting through the stack. The permit to construct requires extensive monitoring of the APC system to ensure proper operation.

Expected emissions from the incinerators, the emergency engine, and heaters and boilers associated with this project are summarized in the following table:

Pollutant	Emissions (tons per year)	Major Source Thresholds Applicable in Frederick County (tons per year)
Carbon Monoxide (CO)	4.14	250
Oxides of Nitrogen (NOX)	9.48	25
Sulfur Dioxide (SO2)	0.88	250
Particulate Matter (includes PM2.5 and PM10)	0.84	250
Volatile Organic Compounds (VOC)	1.13	25
Total Hazardous Air Pollutants (HAP)	0.41	10 (individual) 25 (total)
Greenhouse Gases (GHG) primarily carbon dioxide (CO2, nitrous oxide (N_2O) and methane (CH_4)	5706	100,000

Comment 3 – Emergency Situations, Safety Issues and Notifications

What monitoring, reporting, and emergency notification protocols will be in place if an incident occurs?

How will the City and County be informed in real time should any malfunction or release occur?

MDE Response:

The permit requires a comprehensive monitoring strategy for the new medical waste incinerators (MWI) in accordance with 40 CFR 60 NSPS Subpart Ec and Subpart A. These requirements are outlined in the permit. While the facility is not required to use a Continuous Opacity Monitoring System (COMS), it must implement a Data Acquisition System (DAS) to continuously record and transmit key operational parameters. These parameters include the maximum charge rate, secondary combustion chamber (SCC) temperature, and the presence of bag leaks via a dedicated detection system. Additionally, the system must monitor the duration of bypass stack usage, high efficiency fabric filter inlet temperatures, and specific scrubber metrics such as liquor flow rate and pH levels to ensure the air pollution control technology functions at peak efficiency.

In alignment with 40 CFR §60.58c, the Permittee is required to submit formal notifications regarding the intent to construct and the anticipated date of commencement of initial operation. The permit application also includes several critical reporting benchmarks, including a detailed siting analysis and a breakdown of waste characteristics, specifically laboratory, medical, and infectious waste. Ongoing reporting obligations include the submission of initial performance testing results and the maintenance of rigorous recordkeeping as specified under the General Provisions of the NSPS. Under §60.58c(d), an annual report must be submitted within one year

of the initial data submission, transitioning to semiannual reports once the unit is subject to Title V permitting. Furthermore, per §60.58c(e), semiannual reports containing specific recorded operational data must be submitted within 60 days of the reporting period's end. All stack test data must be submitted electronically to the EPA's WebFIRE database using the Electronic Reporting Tool (ERT), and the facility is required to maintain on-site documentation of all reporting and recordkeeping procedures.

The public may file a Public Information Act (PIA) request at any time to obtain access to the notifications and reports that Fort Detrick submits to the Department. PIA requests can be submitted online at the following website:

https://mde.maryland.gov/programs/marylander/publicinfoact/pages/index.aspx

Regarding the emergency response protocols for the medical waste incinerators, the Department's evaluation remains focused on the air quality impacts associated with the equipment detailed in the permit application. To address broader environmental safety concerns, the Permittee operates within a framework supported by the Department's Office of Emergency Preparedness and Response, which is available 24/7 to manage incidents such as chemical spills or pollution accidents. In the event of an emergency that poses an immediate threat to health or the environment including radiation incidents or sewer overflows citizens are directed to contact the state emergency line at 866-633-4686 (866-MDE-GOTO). Furthermore, the Permittee's procedures emphasize that local fire and rescue services should be the primary point of contact for any immediate life-safety emergencies.

Fort Detrick has offered the following additional response to these comments:

The proposed incinerators incorporate a multi-stage pollution control system designed for maximum efficacy and regulatory compliance. This state-of-the-art system, featuring evaporative quenchers, Venturi scrubbers, and carbon bed adsorbers, effectively neutralizes particulate matter, acid gases, and other pollutants. Emissions are maintained at levels that meet or surpass the requirements of 40 CFR Part 60, Subpart Ec. Continuous compliance is verified through a Data Acquisition System (DAS) that provides real-time monitoring of critical emissions. This robust technological framework ensures stable, compliant operation across all environmental conditions, preventing any impact on local air quality.

The facility's operational framework is built on a foundation of safety, expertise, and regulatory compliance. As a primary safety protocol, all materials designated for incineration must first undergo a mandatory sterilization and autoclaving process. A qualified contractor, responsible for staffing the site with technically proficient operators and maintenance crews, will oversee all daily operations. The facility's standard operating procedures and reporting structures will be developed to meet or exceed all applicable federal, state, and local mandates. A clear communication protocol is also in place, stipulating that in any instance of operational malfunction, the MRDC and the Fort Detrick Army Public Affairs Office are responsible for the immediate notification of relevant City and County authorities.

Comment 4 – Mercury & Dioxin Pollution

Mercury is a neurotoxin to fetuses, neonates and infants. Dioxin, one of the most toxic chemicals known to humankind, is created de novo in the smoke stakes of incinerators from burning chlorinated compounds, abundant in medical waste and is a potent carcinogen as well as causes reproductive harm.

MDE Response:

The Department and EPA recognize the significant public health concerns regarding mercury and dioxin emissions. Mercury is a potent neurotoxin that poses specific risks to developing fetuses and infants through bioaccumulation in the food chain. Similarly, dioxins formed during the combustion of chlorinated materials found in medical waste are highly toxic compounds regulated for their carcinogenic and reproductive effects.

To mitigate these risks, the EPA has established stringent emission standards for Hospital/Medical/Infectious Waste Incinerators (HMIWI). These regulations require the implementation of advanced pollution control technologies, which effectively capture mercury and dioxins, ensuring that emissions remain below levels that threaten public health and the environment. In accordance with Table 1B of 40 CFR 60 Subpart Ec, federal regulations specify standardized testing protocols to verify that small, medium, and large HMIWI facilities meet required emission limits. To demonstrate compliance, the Permittee is required to use EPA Reference Method 23 (Appendix A-7) for the monitoring of dioxins and furans, while EPA Reference Method 29 (Appendix A-8) must be employed to measure and control mercury emissions.

The Permittee plans to install an integrated Air Pollution Control (APC) train that utilizes a multi-stage sequence to treat hot flue gas from an incinerator. The process begins with a Quench Section that utilizes thermostatically controlled water sprays to cool hot flue gases to adiabatic saturation temperatures, followed by a Condenser/Adsorber Section where sodium hydroxide injection and packing media remove acid gases and sulfur oxides (SOX). To further enhance pollutant recovery, a Sub-Cooling System utilizes a plate-and-frame heat exchanger to drop temperatures below saturation levels, facilitating the removal of particulate matter (PM) and heavy metals. This is bolstered by a high-pressure Venturi Particulate Removal Section and an Entrainment Separator that filters out liquid droplets before they reach downstream components. Final polishing of the exhaust is handled by a High Efficiency Fabric Filter Unit for sub-micron PM and a Deep-Bed Carbon Adsorber Unit, which uses powdered activated carbon to capture mercury and dioxins through passive adsorption, all while an Induced Draft (ID) Fan maintains the necessary flow to pull the treated gases through the system. This comprehensive system ensures that the final exhaust gas comprising the removal of heavy metals, acid gases, and organic toxins meets all federal regulatory standards before exiting through the stack.

In addition to meeting federal hazardous air pollutant requirements, the toxic air pollutant emissions from the incinerators must also meet stringent State air toxics requirements. A list of

toxic air pollutants (TAPs - as defined under Code of Maryland Regulations (COMAR) Chapters 26.11.15 & 16) being emitted from the facility was provided in the Department's Tentative Determination. Maryland's TAP screening levels are set to be protective of public health. For carcinogenic pollutants, the screening level is set to ensure that the maximum exposed individual will not have an increased cancer risk of more than 1 in 100,000. For non-carcinogenic pollutants, the screening level is set at 1/100th of the value used by the American Conference of Governmental Industrial Government Hygienists (ACGIH) in their efforts to protect workers from the effects of pollutants encountered in a working environment.

As part of the application review process the Department conducted an ambient impact analysis for each TAP. The analysis compared the worst-case hourly emissions of each TAP from the proposed installations to the maximum allowable emission rate calculated for each TAP using the procedures in COMAR 26.11.16.02 and the TAP's screening level or levels which have been determined to be protective of public health. In each case, the worst-case hourly emissions were less than their respective maximum allowable emission rate.

Comment 5 – Pollutants from Medical Waste Incinerators (MWI)
Other pollutants from burning medical waste include metals (such as lead and cadmium), particulate matter, acid gases (hydrogen chloride and sulfur dioxide), carbon monoxide, and nitrogen oxides.

MDE Response:
Medical waste combustion can generate various pollutant emissions, including heavy metals (lead, cadmium), particulate matter (PM), acid gases (HCl and SO2), and combustion byproducts like carbon monoxide (CO) and nitrogen oxides (NOx). Under the Clean Air Act Section 129, the EPA has established New Source Performance Standards (NSPS) and Emission Guidelines (codified in 40 CFR Part 60 Subpart Ec) that specifically regulate these nine pollutants. MDE enforces these federal limits through COMAR 26.11.08, which requires facilities to install a suite of air pollution control devices designed to neutralize each specific hazard.

To ensure full regulatory compliance, MDE requires that the Permittee adhere to all federal standards governing medical waste incineration. This is achieved through the implementation of an integrated, multi-stage emissions control suite designed to neutralize hazardous pollutants. The process begins with a Quench Section that utilizes thermostatically controlled water sprays to cool hot flue gases to adiabatic saturation temperatures, followed by a Condenser/Adsorber Section where sodium hydroxide injection and packing media remove acid gases and sulfur oxides (SOx). To further enhance pollutant recovery, a Sub-Cooling System utilizes a plate-and-frame heat exchanger to drop temperatures below saturation levels, facilitating the removal of particulate matter (PM) and heavy metals. This is bolstered by a high-pressure Venturi Particulate Removal Section and an Entrainment Separator that filters out liquid droplets before they reach downstream components. Final polishing of the exhaust is handled by a High Efficiency Fabric Filter Unit for sub-micron PM and a Deep-Bed Carbon Adsorber Unit, which uses powdered activated carbon to capture mercury and dioxins through passive adsorption, all while an Induced Draft (ID) Fan maintains the necessary flow to pull the treated gases through the system. The

efficacy of these controls is rigorously validated via Continuous Emission Monitoring Systems (CEMS) and periodic stack testing. These protocols ensure that emissions consistently remain within legally binding numerical limits such as 18 mg/dscm for particulate matter and 5.1 parts per million by volume (ppmv) for hydrogen chloride for large units thereby upholding environmental integrity and safeguarding public health.

Comment 6 – Fly Ash Emissions

The commenter stated that "there are the pollutants emitted into the air, the fly ash that is left on filters, the bottom ash that accumulates in the incinerator and ends up in landfills."

MDE Response:

According to the EPA documentation, fly ash from medical waste incineration is defined as an incineration residue, specifically the fine, powdery particulate matter carried up with the flue gas and captured by air pollution control devices (APCDs) such as fabric filters or electrostatic precipitators.

In the permit application, the permit stated that particulate matter (PM) control will be achieved through a multi-stage process that progressively removes particles of varying sizes using both wet and dry technologies. The sequence begins with a Quench Section that utilizes thermostatically controlled water sprays to cool hot flue gases to adiabatic saturation temperatures, followed by a Condenser/Adsorber Section where sodium hydroxide injection and packing media remove acid gases and sulfur oxides (SOX). To further enhance pollutant recovery, a Sub-Cooling System utilizes a plate-and-frame heat exchanger to drop temperatures below saturation levels, facilitating the removal of particulate matter (PM) and heavy metals. The core of the PM removal occurs in the Venturi Particulate Removal Section, where a high-pressure drop creates extreme turbulence, forcing PM to collide with and be trapped by scrubbing liquid droplets. These droplets are then captured by a high-efficiency mesh Entrainment Separator before the gas enters the High Efficiency Fabric Filter Unit, which utilizes ultra-high efficiency tubular filtration to remove remaining sub-micron particles. Finally, the Carbon Adsorber Unit provides a deep-bed polishing stage, ensuring that even trace particulates are filtered out before the Induced Draft (ID) Fan discharges the cleaned gas through the stack. In addition, incinerator system requirements specified in the Construction Documents (CDs) such as a 1.0+ second secondary combustion chamber (SCC) residence time at 1,800° F to 2,000° F and with cascade type combustion controls for the burners and blowers will serve to minimize the formation and emissions of CO, organic PM, VOC, and other organics. This is also reflective of state-of-the-art emission control technology. Moreover, the Permittee will also be monitoring and controlling PM to demonstrate compliance by using EPA Reference Method specified in Table 1B to Subpart Ec of Part 60.

The regulation of fugitive dust under COMAR 26.11.06.03D and federal HMIWI standards functions through a combination of required preventative actions and rigorous visual verification to ensure particles never leave the facility's boundaries. By prohibiting the handling, transport, or storage of materials including hazardous fly ash and bottom ash without reasonable precautions, the law effectively requires physical suppression methods such as water misting, total enclosure

of storage silos, and the use of sealed containers during transport. To ensure these precautions are actually working, the regulation requires a performance test using EPA Reference Method 22, a "zero-tolerance" visual assessment where an observer monitors the facility for a total of three hours to detect any visible emissions escaping into the air as per 40 CFR §60.52c(c). This cycle of prevention is reinforced by a strict five-year recordkeeping requirement, which creates a long-term paper trail of compliance and allows regulators to hold the facility accountable for maintaining the integrity of their dust-control systems year-round. By enforcing these specific control measures and verification protocols, the permit effectively prevents fugitive dust from escaping into the atmosphere.

Under the New Source Performance Standards (NSPS) for medical waste incinerators, the facility must maintain a specific plan for managing these residues. See 40 CFR § 60.55c - Waste Management Plan. According to Fort Detrick, any ash that is collected will be disposed of in the Fort Detrick municipal landfill which is a permitted lined landfill. The ash will be covered with soil following landfill permit requirements.

Fort Detrick has offered the following additional response to these comments:

In 1990, the Army constructed a modern lined municipal landfill on Area B. This landfill was reviewed and permitted by the Maryland Department of the Environment. The landfill is only used for non-hazardous municipal waste, construction and demo debris, and non-hazardous incinerator ash. The current landfill Maryland Refuse Disposal Permit is No. 2020-WMF-0327. The Fort Detrick Municipal Landfill Permit 2026 renewal is currently being finalized by the MDE Land and Materials Administration. Once the air construction permit is issued a new Maryland Refuse Disposal Permit specific to the approved incinerator facility equipment installation will be prepared. The old Incinerator Refuse Disposal Permit was 2015-WIN-0341. The Incinerator Refuse Disposal Permit spells out waste handling requirements, hours of operation, capacity, general conditions, site maintenance, ash testing and disposal requirements.

Comment 7 – Absence of Ambient PM2.5 Daily Measures & PM2.5 Monitoring

The commenter expressed the concern that “there is no current baseline for daily measures of PM2.5 in that area, making it difficult to know how this facility will impact the air quality in the surrounding neighborhoods.”

The commenter also stated that the City of Frederick has begun a long-term air quality study, including PurpleAir PM2.5 monitors stationed with air temperature sensors, though there is no monitor in the area surrounding Fort Detrick at this time. The City proposes installing at least one permanent, public-facing PM2.5 monitor and temperature sensor located immediately downwind of the facility, if the facility is permitted to be built. The sensors should have data that is easy for the public to access through an online dashboard.

MDE Response:

MDE supports local air monitoring networks to the extent practicable, including providing guidance on site selection and configuration. Frederick County Air Quality Monitoring Network page can be found in the following website:

https://frederickcountymd.gov/8659/Air-Quality-Monitoring-Network

MDE has sent this comment to the City of Frederick for their consideration.

From a statewide monitoring perspective, existing PM2.5 monitoring sites, even ones not in an ideal location, may help identify baseline values. PM2.5 is classified as a regional pollutant, capable of traveling long distances, which results in measured concentrations often being similar across broad geographic areas. For example, PM2.5 design values, the EPA metric for comparing concentrations to the National Ambient Air Quality Standard (NAAQS) for PM2.5, at 12 sites across a large portion of the state (from Garrett to Kent County) only show a variation of 2.7 ug/m3. The PM2.5 regulatory sites nearest to the City of Frederick are located in the neighboring Washington and Montgomery Counties. Annual design values at these two sites are nearly identical, registering at 6.0 ug/m3 and 6.1 ug/m3, which is approximately 30% below the current NAAQS for PM2.5 of 9 ug/m3.

Comment 8 – Absence of PM2.5 Temperature Sensor

When temperatures reach above 90 degrees or there is a Code Orange, Red, Purple, or Maroon Air Quality alert, the City proposes Fort Detrick cease incineration operations. The City of Frederick identified a day-time urban heat island effect during a temperature study in 2019. High temperatures exacerbate particulate matter pollution and can cause adverse health effects for those with underlying medical conditions. An increase in particulate matter from the proposed facility could cause additional health impacts for those residents. Incineration operations may be more appropriate during the night when temperatures return to normal and pollution levels are lower.

MDE Response:

The presence of a heat island does not automatically mean pollution will be worse. In fact, heat islands are associated with enhanced vertical mixing of air between the ground level and higher elevation. This means that, under typical circumstances, pollution over the city could be lower than in other areas, all other things being equal, because the pollution is diluted over a greater depth.

The Department advises against conducting incinerations strictly during nighttime hours unless the smokestack is exceptionally tall (e.g., several hundred feet). The primary concern is that nocturnal inversions can effectively trap and concentrate airborne pollutants at ground level, which is a breathing-height health risk.

Baseline ambient concentrations for PM2.5 were derived from the nearest Maryland air monitoring site, the HU-Beltsville Station in Prince George's County. Data analysis indicates a 24-hour

maximum concentration of 14.5 µg/m³ and an annual average of 5.6 µg/m³. These values remain significantly below the National Ambient Air Quality Standards (NAAQS), which are established at 35 µg/m³ for 24-hour periods and 9 µg/m³ annually. Consequently, the localized background air quality demonstrates compliance with federal health-based benchmarks, ensuring that the MWI will not result in adverse impacts on public health.

Fort Detrick has provided the following additional response:

The proposed incinerators are engineered with a multi-stage system to ensure complete combustion and superior emission control. The dual-chamber design (Primary and Secondary Combustion Chambers) guarantees thorough thermal destruction of waste, while a subsequent state-of-the-art air pollution control system—comprising evaporative quenchers, Venturi scrubbers, and carbon bed adsorbers—effectively removes particulate matter, acid gases, and other pollutants.

Continuous compliance with all regulatory limits is verified by a Data Acquisition System (DAS) that provides real-time monitoring of key parameters, including NOX, SO2, and dioxins/furans. The facility is designed to operate well below thresholds that would trigger air quality alerts, maintaining stable and compliant emissions under all conditions, irrespective of ambient temperature or time of day. This operational flexibility is essential to accommodate the variable waste streams generated by Fort Detrick's research facilities.

The facility will be managed by a qualified contractor. During contract negotiations, the Government will address operational schedules, including the possibility of evening or after-hours incineration, to ensure both mission readiness and environmental stewardship. The entire system is designed to meet or exceed all federal and state regulations, including 40 CFR Part 60, Subpart Ec, and COMAR 26.11.08.

Comment 9 – Frederick County as an Ozone Nonattainment Area

Frederick County is already in ozone nonattainment under the Clean Air Act, meaning regional air quality is unhealthy and any new combustion source exacerbates the ozone precursor burden.

MDE Response:

Fort Detrick is located in Frederick County, an area designated as not in attainment with the National Ambient Air Quality Standard (NAAQS) for ozone. Pollutants that contribute to the formation of ground level ozone include emissions of oxides of nitrogen (NOX) and volatile organic compounds (VOC). Non-attainment status does not prohibit new sources of these pollutants from being built.

The major source thresholds for NOx and VOC in Frederick County are 25 tons per year each. The incinerators will emit less than 9.5 tons of NOx and 1.2 tons of VOC on a projected worst-case basis. The incinerators are considered to be a minor source of NOX and VOC and are not expected to significantly impact the ground level ozone concentration in the area. Additionally,

the federal Clean Air Act and Maryland law do not prohibit new construction in nonattainment areas. Both major and minor new sources can be approved, but their emissions need to be controlled to varying degrees based on the type of emission source and other factors. The emissions from the proposed incinerator units are designed to meet all applicable control standards currently in effect. Major sources, which these incinerators are not, would need to secure emission offsets for new emissions and install the lowest emitting technology available.

Comment 10 – Environmental Hazards

A commenter stated having "serious concerns about the potential for environmental hazards" in their community."

MDE Response:

Fort Detrick has a comprehensive emergency response plan for environmental hazards. This plan includes fire, spill, and emergency response. Fort Detrick's overall safety/risk plans include prevention, detection, maintenance, environmental compliance, training, and operation procedures.

Fort Detrick conducted an analysis that considered air pollution control alternatives to minimize potential risks to public health and the environment to the maximum extent practicable. This evaluation accounted for site-specific factors, including costs, energy impacts, and non-air environmental consequences, to determine the most viable solutions. As part of this process, an investigation into the RACT/BACT/LAER Clearinghouse (RBLC) was completed to identify "Best Available" air pollution technologies previously required for stationary sources. This search, which utilized data provided by state and local permitting agencies, specifically targeted control devices for Hospital/Medical/Infectious Waste Incinerators (HMIWI) but revealed that incineration remained the only established technology for such waste disposal. A review of recently permitted units under Subpart Ec identified only one comparable medical waste incinerator added within the last 20 years, the details of which were included in the permit application.

Based on the results of the siting analysis and the RBLC review, Fort Detrick proposed the air pollution control (APC) system equipment and criteria described in the application as the best available alternative. This selection relied on compliant emissions test data from similar HMIWI systems at other facilities, ensuring the chosen technology was proven and reliable. Furthermore, APC system manufacturers were prequalified based on their demonstrated ability to meet stringent regulatory emission limits and their willingness to provide formal performance guarantees. Ultimately, the proposed APC system and its associated equipment reflected state-of-the-art technology designed to satisfy all applicable environmental standards.

To ensure ongoing compliance with all applicable state and federal air quality regulations, the Permittee is required to adhere to the stringent standards set forth in COMAR 26.11 and 40 CFR Part 60, Subpart Ec. Under the terms of the permit, the Permittee will adhere to permit conditions for construction, testing, and continuous monitoring of the facility. This includes conducting initial performance tests to verify emission limits and maintaining a Continuous Emission Monitoring

System (CEMS) to provide real-time data on operational integrity. These oversight mechanisms ensure that the facility remains within regulatory bounds throughout its lifecycle, providing an enforceable framework for public health and environmental protection.

Comment 11 – Lack of Communication to the Public & Local Elected Officials, Insufficient Public Engagement

The commenter expressed concerns about the "process by which this application has been communicated to the public and to local elected officials."

It was stated that "public engagement for this application was insufficient," and "many residents living near Fort Detrick – and even local and state elected officials – were unaware of the informational meeting in October."

Commenters expressed concerns about "having insufficient communication efforts made about this project."

It was stated that "an article about this project was not seen in the daily newspaper and whether a news article is adequate publicity for such a negatively impactful project."

It was also stated that "information was hidden, bare minimum communications threshold was not achieved and if that was enough?"

A commenter expressed concerns about being "notified through Facebook about the policy to burn medical waste daily."

The commenter stated that "neighbors close to Ft. Detrick should have received something in the mail like letters or posted notice since many neighbors are elderly, others active and walking the neighborhood all to be impacted by poor air quality."

I also feel strongly that there has not been enough public information about this issue. The surrounding neighborhood should have received written notification. To my knowledge, we have not received any notification. Placing a public notice in FNP, with its low readership, (if this was even done) is no longer a sufficient method to notify the public of impending changes that will affect their lives.

MDE Response:

The Department has implemented a comprehensive public communication process for this permit application in accordance with the Environment Article §§1–601 through 1-607 in Maryland statute. These statutes dictate the methods by which the Department must notify the public and local officials of pending permit applications and scheduled meetings. In addition to these extensive public engagement requirements, the Department also reached out to a number of local community organizations recommended by Frederick County officials including Envision Frederick, the Fort Detrick Restoration Advisory Board, the City of Frederick Neighborhood

Advisory Council (#1, 2, 3, 6), Mobilize Frederick, the City County Containment Laboratory Community Advisory Committee, Clean Air Partners, the League of Conservation Voters, Chispa, Frederick City NAC5, and Moms Clean Air Force.

A Notice of Application and Informational Meeting was published in The Frederick News-Post on February 12 and February 19, 2025. Furthermore, letters notifying local and state elected officials and known interested parties were sent on February 14, 2025. An in-person Informational Meeting to provide the public an opportunity to learn about the permit application was held on February 26, 2025 at the Hampton Inn & Suites - Frederick-Fort Detrick, 1565 Opossumtown Pike, Frederick, MD 21702.

Following the Department's review of the application, a Notice of Tentative Determination, Public Hearing and Opportunity to Submit Written Comments was published in The Frederick News-Post on October 8 and October 15, 2025. Letters notifying local and state elected officials and known interested parties were sent on October 7, 2025. The in-person Public Hearing was held on October 29, 2025 in the same location as the Informational Meeting. An option to join the hearing virtually was also provided. The Department also reached out to Frederick County officials and local community groups to avoid scheduling conflicts with other public events in the area.

All application materials and technical reviews were posted to the Department's Air Quality Permits webpage for public viewing. To ensure the public had time to review the materials, the Department extended the written comment period for an additional 60 days through January 6, 2026.

Fort Detrick has provided the following additional response:

Fort Detrick prepared an Environmental Assessment for Medical Waste Incineration Options in 2020.

The EA considered six options:
No-Action Alternative
Build a New Incinerator Facility at a New Location
Replace Legacy Incinerator
Build New Incinerator at Legacy Location
Installation of a Distributed Incinerator System at Source Locations
Repair the Legacy Incinerator.

The proposed action in the EA was to Build a New Incinerator Facility at a New Location. EA evaluated and discussed the affected environment and potential environmental consequences for the Proposed Action by resource area. Based on the results of the analysis in the EA, the comments received during the public comment period, and evaluated associated cumulative effects, a finding of no significant impact was established for the proposed action.

A decision was signed on August 24, 2000 to proceed with the Proposed Action, a long-term solution that would meet all applicable federal, state, local, and installation regulations, and would be used to treat Regulated Medical Waste generated at Fort Detrick, would meet the mission requirements at Fort Detrick, and along with specified permits, plans and measures would not have a significant impact on the quality of human life or the natural environment.

Public Participation:
Public participation opportunities with respect to this EA and decision making on the Proposed Action are guided by 32 CFR Part 651, Environmental Analysis of Army Actions.

Coordination with federal and state agencies including the U.S. Fish and Wildlife Service (USFWS), the Maryland Department of Natural Resources (MD DNR), and the Maryland Historic Trust (MHT) was initiated for the Proposed Action via letters and/or Public Notice on December 20, 2019.

On January 10, 2020, a Public Notice was advertised in the Frederick News Post and announced on the radio station WFMD announcing the date/time/location of the upcoming Public Sensing Meeting. The Public Notice was also published on the Fort Detrick website and social media. A Public Sensing Meeting was held on January 21, 2020 at the Governor Thomas Johnson High School from 6:00-8:00pm to inform the public and interested stakeholders about the proposed project, and to solicit any concerns or questions that should be considered in the EA preparation. Written comments were collected.

The Notice of Availability for the EA was advertised in the Frederick News Post on May 18, 2020, and on the Fort Detrick website and social media. The Draft EA/FNSI was made available for a 30-day (May 19, 2020 to June 18, 2020) public review and comment period, which included two virtual public meetings held on June 2, 2020 at 5:00pm and June 4, 2020 at 7:00pm in order to receive public comments. Additionally, comments could be received via mail at Department of the Army, U.S. Army Final Medical Waste Incineration Operations EA 2-6 Installation PAO, 810 Schreider St, Suite 100, Fort Detrick, Maryland 21702 or via email to FortDetrick_NEPA@usace.army.mil. The EA was also sent to federal, state, and local agencies for comment.

Printed copies of the Draft EA typically provided to local libraries were not made available in response to the COVID-19 pandemic. All materials were provided online on the Fort Detrick website (https://home.army.mil/detrick/) by clicking on Environmental/NEPA Documents on the left side of the page, or at the following link –

https://home.army.mil/detrick/index.php/about/Garrison/directorate-public-works/environmentalmanagement-division

Additionally, due to the COVID-19 pandemic, agency correspondence letters were provided via email, instead of printed.

The Public Notice was published in the local newspaper (Frederick News Post) and on the Fort Detrick website (https://home.army.mil/detrick/).

Public Notice - Notice of Availability
Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FNSI)
Medical Waste Incineration Options
U.S. Army Garrison Fort Detrick
The U.S. Army Corps of Engineers Baltimore District and Fort Detrick are preparing an Environmental Assessment (EA) for the Medical Waste Incineration Options at Fort Detrick, Maryland. The Draft EA is available for public and agency review as noted below.

In response to the COVID-19 pandemic, printed copies of the Draft EA are not available to view at local libraries. Instead, all materials are available on the Fort Detrick website https://home.army.mil/detrick/ by clicking on Environmental/NEPA Documents on the left side of the page, or at the following link:
https://home.army.mil/detrick/index.php/about/Garrison/directorate-public-works/environmental-management-division

We request your review and written comment of the Draft EA for Medical Waste Incineration Options at Fort Detrick within 30 days of receipt of this correspondence. If you cannot access the document online or if you have any questions, please send a request for information to FortDetrick_NEPA@usace.army.mil or to Heather Cisar (Heather.R.Cisar@usace.army.mil).

Public Meetings
Two public meetings (to be held telephonically) are scheduled for
· Tuesday, June 2, 2020 at 5:00pm; and
· Thursday, June 4, 2020 at 7:00pm.

Meeting materials and teleconference information can be found on the Fort Detrick website noted above. If you experience difficulty accessing meeting materials online, please submit a request for the meeting materials to FortDetrick_NEPA@usace.army.mil. To request meeting materials by mail, please submit it to FortDetrick_NEPA@usace.army.mil marked not later than June 2, 2020. Alternatively, more information about the Draft EA and environmental review can be obtained by calling Fort Detrick at 301-619-2018 during normal working business hours, Monday through Friday from 8:00 am to 4:00 pm.

Comment 12 – Eco-friendly Project/ Zero Environmental Impact
The commenter requested that "Fort Detrick and MDE provide a clear, public-facing statement affirming that this project will not negatively impact air, water, or soil quality in neighboring communities, supported by transparent data and enforceable safeguards."

MDE Response:

Permits to construct are required before an air pollution source is constructed. The purpose of the permit to construct is to ensure that a proposed project will comply with applicable air quality control laws which exist to protect public health and the environment.

The Department thoroughly evaluates an air quality permit to construct application to ensure the proposed air emission sources will not violate national ambient air quality standards (NAAQS), will not cause a nuisance, will not pose a threat to public health, and will not violate applicable air quality regulations designed to limit the emissions of ozone-forming substances (VOC and NOX). Conditions in permits are driven by mandatory federal requirements and state requirements developed in response to the overall need for Maryland to achieve compliance with the federal ozone standard and to maintain compliance with other standards.

The Department's regulatory focus in evaluating an application for a permit for the construction of an air pollution source is limited to air quality impacts associated with the equipment presented in the application. As part of its evaluation of the air quality permit application, the Department reviews technical information contained in both the application and the Department's files and in published reference materials. A determination is then made as to whether the estimated emissions from the equipment under review will or will not cause or create:

1) A violation of any of the National Ambient Air Quality Standards (for federal criteria pollutants) or regulatory requirements associated with those standards,
2) An adverse effect on public health (for toxic air pollutants), or
3) A nuisance.

The Department possesses the necessary legal tools to require the company to operate properly. Although air quality permits contain conditions requiring companies to conduct monitoring, reporting and record keeping, these are not the only methods by which the Department determines compliance. The Department also conducts announced and unannounced inspections to ensure that a company is operating in compliance with air pollution control requirements. If violations occur, appropriate action is taken to bring the facility back into compliance. The type of action taken is a function of the severity and type of violation and several other factors, such as the willfulness of the violation and the degree of harm to public health or the environment. Enforcement actions can range from the issuance of a notice of violation to the imposition of civil and criminal penalties. The Department possesses the necessary legal tools to require the Permittee to operate properly.

Fort Detrick currently operates under a federal Title V – Part 70 Operating Permit issued by the Department. Fort Detrick must notify the Department when construction commences. Prior to operation of the incinerators, Fort Detrick is required to submit an application for a Significant Modification to their federal Title V – Part 70 Operating Permit. Fort Detrick must demonstrate compliance with all applicable requirements before receiving a modified operating permit. Fort Detrick is required to maintain and renew the permit every five years. The federal Title V – Part 70 Operating Permit imposes testing, monitoring, record keeping, and reporting requirements for the entire facility. Fort Detrick is required to submit semi-annual and annual reports to the

Department to demonstrate continuous compliance with all applicable air quality standards and regulations.

Fort Detrick has offered the following additional response:

The incinerator will be operated in full compliance with all applicable solid waste and air permit regulations. The incinerator operations will not have any anticipated pathways that could negatively impact soil and water resources onsite or in the surrounding community. The incinerator is designed to be a modern state of the art facility with process and emission controls in place to prevent operation outside of the design parameters. In addition, process parameters, stack testing, and continuous air emission monitoring data is collected and provided to MDE to demonstrate compliance with permit limits and regulatory requirements. The data will be provided to MDE on a regular basis to demonstrate the incinerator is operating in compliance and is not negatively impacting the quality of the air, water, or soil in neighboring communities.

Comment 13 – Pause/Halt Project

Given the inadequate public notice, the level of community concern, and the recent transition to a newly elected City Council, I urge MDE to place this project on hold until:

Robust public education and outreach are conducted in the surrounding neighborhoods, potentially through the NACs (neighborhood advisory council);
Impacted residents have a genuine opportunity to ask questions and receive answers; and
Local municipal leadership has adequate time to review and weigh in on the proposal.

MDE Response:

As stated in the response to Comment 11, the Department provided extensive public notice regarding this permit application. The Department worked with local elected officials and the Frederick County Health Department to seek out additional interested parties and to schedule the public hearing on a date and time that did not conflict with other local community events. To allow the community more time to comment, the written comment period for this permit application was extended for 60 additional days. In addition, Fort Detrick has been communicating with the public on this project continuously since 2020.

A Final Determination by the Department on the issuance of a permit is subject to judicial review at the request of any person that meets the threshold standing requirements under Federal Law; and a) Is the applicant; or b) Participated in a public participation process through the submission of written or oral comments.

A petition for Judicial Review must be filed with the Circuit Court for the County, unless otherwise required by statute, where the application for the permit states that the proposed activity will occur, and must be filed within 30 days after the publication of a notice of final determination.

Comment 14 – Health Impacts

Health effects attributed to particulate matter, especially the smallest particles, PM2.5, include heart attacks, strokes, respiratory diseases, and lung cancer.

The commenter expressed that “this proposal presents serious and unacceptable risks to public health, environmental safety, and the long-term wellbeing of surrounding communities.

I would like to understand what studies have been done to explore the impact to air quality, health and property values.

With all of the green initiatives my tax dollars support in this county, I am surprised that there is not more outrage and staunch opposition to this project from our municipal leadership. We have electric buses and solar chargers all over the place (to name a few things) that were purchased with my tax dollars presumably to reduce emissions, but somehow an incinerator that will billow smoke and potential carcinogens into the air is a possibility?

As a resident of Frederick County, I have grave concerns regarding the impact the Ft. Detrick incinerators will have on our already declining air quality if this permit is approved.

These incinerators would put a strain on already strained atmospheric systems (which our regulations have not been updated to accommodate), would unfairly impact underserved communities in the residential area surrounding Ft. Detrick, and would impact Frederick and beyond.

For the last two summers, Frederick has experienced air quality decline and code red alerts due to wildfire smoke from massive fires elsewhere (e.g. Canada) – to the extent that public has been advised to stay inside on certain days, if possible. Megafires have been occurring since 2017 are increasing in the U.S. and Canada, not decreasing. These are fires that have a massive environmental impact, emitting smoke and carbon at the same scale as volcanos with far reaching incinerators would only be more problematic for public health.

Medical waste incineration releases a well-documented array of hazardous pollutants, including dioxins, furans, particulate matter, heavy metals (such as mercury, lead, and cadmium), and acidic gases. Dioxins in particular are among the most toxic chemicals known, linked to cancer, reproductive and developmental harm, immune system suppression, endocrine disruption, and respiratory disease. These compounds persist in the environment, bioaccumulate in the food chain, and disproportionately harm children, pregnant people, the elderly, and those with preexisting health conditions. Burning plastics dramatically worsens these risks. Many medical plastics contain chlorine and other additives that, when incinerated, form additional carcinogenic and hormone-disrupting byproducts. Once released, these pollutants do not remain confined to the incinerator site. They travel through air, settle into soil and waterways, contaminate crops, and enter human bodies through breathing, drinking water, and food.

The proposed incinerators would operate continuously, creating a constant stream of toxic emissions hour after hour, day after day. This is not a short-term exposure risk, but a permanent and cumulative burden placed on nearby residents and ecosystems.

Similar facilities in Baltimore have also been constructed around disadvantaged populations, same as the proposed facility in Frederick. A recent study showed the facilities there cause $36.9 million/year in health damages and is permitted to burn enough waste to cause up to $107.1 million/year. How many millions in health damages are you willing to cause the Frederick public?

Frederick is currently a desirable area to live, work, and raise a family. With the influx of negative industrial builds, such as the massive data center and this medical waste facility, you will be harming the health of the population, the value of the property owned and cared for by the Frederick citizenry, reducing the appeal of our community, and depressing the quality of life for all residents.

As a resident of Frederick County, I am concerned about the tentative determination to issue a permit for Fort Detrick to construct a new Medical Waste Incinerator. This facility would be permitted to emit health-harming air pollution in close proximity to residential areas with EJ Scores above the 75th percentile in the state.

Medical waste incineration, like municipal trash incineration, emits air pollution that impacts nearby residents' health. Increasing waste emits mercury, lead, particulate matter 2.5 and 10, sulfur dioxide, nitrous oxide, and carbon monoxide, all of which pose significant dangers to public health. Medical waste is typically approximately 25% plastic, and burning plastic especially releases dangerous compounds called dioxins into the air. Dioxin exposure is linked to cancer, diabetes, immune system suppression, and many other adverse health effects.
I'm concerned that air pollution from the new incinerator is a hazard, and we won't know the full effects until decades later – when it begins to manifest as serious health problems in our community.

Reducing off-site transport does not eliminate risk; it transfers that risk to nearby residents through ongoing exposure to air pollution. Medical waste incineration emits mercury, lead, particulate matter (PM2.5 and PM10), sulfur dioxide, nitrogen oxides, carbon monoxide, and dioxins. Because medical waste is approximately 25% plastic, dioxin formation is an inherent and unavoidable byproduct of combustion. Dioxins have no known safe level of exposure and are linked to cancer, immune system suppression, and other serious health impacts.

MDE Response:
The Department's review process considers broad health impacts rather than health impacts based on specific health conditions. That is the situation for every permit application reviewed, from crematories to large industrial facilities to power plants. Part of our permit review process considers whether a facility will meet federal ambient air quality standards.

The EPA develops NAAQS for six criteria pollutants (Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone, Particulate Matter, and Sulfur Oxide) to set standards that protect public health with an adequate margin for safety. These standards are developed by health experts, to ensure that the standards are sufficient to protect public health. Projected emissions of criteria pollutants from the medical waste incinerators are well below federal major source thresholds and will meet federal ambient air quality standards.

The second part of the permit review process is determining whether the incinerators will meet Maryland's stringent toxic air pollutant (TAP) regulations. Maryland identifies thousands of toxic air pollutants that are in addition to hazardous air pollutants regulated by EPA. To regulate toxic air emissions, Maryland requires sources to first quantify all TAP emissions. The second step is to apply the Best Available Control Technology for Toxics (T-BACT). For large medical waste incinerators, T-BACT consists of an integrated high efficiency control train that includes an evaporative quencher, a condenser/absorber, a sub-cooling system that includes a heat exchanger, a venturi scrubber, an entrainment separator, a high efficiency fabric filter, a carbon bed adsorber and an induced draft (ID) fan. Following the use of T-BACT, a medical waste incinerator must ensure that the after-control level of emissions of any toxic air pollutant will not endanger public health. This is done by comparing the worst-case expected emissions of a particular toxic air pollutant to a maximum allowable emission rate based on a safe exposure level set by the American Conference of Governmental Industrial Hygienists (ACGIH) for that same pollutant. ACGIH sets their concentration at a level to protect workers in an industrial setting to which those workers are exposed to the pollutant in question daily over an eight-hour period. In Maryland, the Department takes that concentration and divides it by a factor of 100 so that it is more protective of public health. For all medical waste incinerator toxic air pollutants, including mercury and dioxin/furan, the expected emissions from the proposed incinerator will not exceed the short-term exposure limits established for each pollutant that are protective of public health.

For certain known carcinogenic pollutants, an additional annual concentration standard is set by the EPA based on cancer risk. The concentration standard is set at a level where if 100,000 people were exposed to the estimated concentration of that pollutant in the atmosphere for 70 consecutive years, one person would be expected to develop cancer. For all incinerator-related toxic air pollutants, the expected emissions from the proposed incinerator will not exceed the annual exposure limits established for each pollutant that are protective of public health.

Comment 15 – Startup, Cool Down and Malfunction

Incinerators should operate between 850-1100 degrees centigrade and fitted with special equipment to reduce dioxins and furans but incinerators do not always operate at those temperatures when starting up and cooling down and especially when malfunctioning.

MDE Response:

MDE acknowledges the commenter's statement that incinerators must operate at highly controlled temperatures typically ranging between 850°C and 1100°C (1,562°F to 2,012°F), together with the use of specialized air pollution control equipment, both which are effective means to control

emissions of hazardous air pollutants including dioxins and furans. Furthermore, MDE recognizes the commenter's concern regarding incineration operations during startup, shutdown, and malfunction (SSM) events.

Hospital or Medical or Infectious Waste Incinerators (HMIWI) manufacturers specifically design units to reach and sustain high temperatures in the mentioned range to ensure among other things the complete thermal destruction of hazardous organic compounds. The mentioned temperatures range concur with recommendations and the best practices highlighted by organizations such as the World Health Organization (WHO) and the U.S. EPA. According to the U.S. EPA, medical waste incinerator chamber temperatures typically reach 980°C to 1,095°C (1,800°F to 2,000°F).

Fort Detrick stated in Sections 2.2 and 2.3.1 of the Permit to Construct Application, that the proposed incinerator will be constructed with a secondary combustion chamber (SCC) specifically engineered to provide a minimum 1.0-second residence time while preheating and maintaining normal flue gas temperatures between 982°C and 1,093°C (approximately 1,800°F to 2,000°F).

Federal regulations do not prescribe a universally fixed operating temperature range. Instead, facilities must conduct stack testing to demonstrate initial compliance under 40 CFR 60 Subpart Ec. The initial stack test results will be used to show compliance with the emissions limits as stated in Table 1B to Subpart Ec of Part 60. The rule requires that the minimum secondary chamber operating temperatures for the incinerator be established at 90 percent of the highest 3-hour average measured during the most recent performance test demonstrating compliance with PM, CO, dioxin/furan, and NOx emission limits.

In accordance with § 60.57c(a), Fort Detrick is required to continuously monitor and record all applicable maximum and minimum operating parameters listed in Table 3 of the Subpart Ec. The proposed permit to construct is provided with specific conditions governing the facility's construction, operations, monitoring, and record-keeping practices related to the requirements listed in Table 3 of the Subpart Ec. Table 3 lists operating parameters to be monitored such as: maximum charge rate, maximum fabric filter inlet temperature, maximum flue gas temperature, minimum secondary chamber temperature, and others.

As part of the construction requirements in Part C (8) of the permit to construct it is stated that Fort Detrick, must install "the necessary equipment to monitor the applicable maximum and minimum operating parameters listed" in Table 3. Part D (5) also includes the operating requirements that Fort Detrick must follow to comply with the requirements listed Table 3 of Subpart Ec.

In addition, Part E of the permit includes monitoring conditions related to the operating parameters listed in Table 3. For example, condition E(9), states that Fort Detrick shall calibrate (to manufacturers' specifications), maintain, and operate devices (or establish methods) for monitoring the applicable maximum and minimum operating parameters listed in Table 3, in such a way that these devices (or methods) measure and record values for these operating parameters at the frequencies indicated in the mentioned table, at all times. Moreover, Fort Detrick shall

continuously monitor and record all the parameters listed in Table 3 as stated in §60.57c(a). Finally, to satisfy notifications, record-keeping, and reporting conditions, the facility must maintain records of calibration of any monitoring devices as required under §60.57c(a) through (d). For example, Fort Detrick will be required to measure and record continuously the maximum charge rate (once each hour), and the minimum secondary chamber temperature (each minute). All these conditions will ensure that Fort Detrick operates the incinerators as designed and in accordance with the federal regulations (Subpart Ec).

Operators must strictly adhere to these continuous monitoring requirements and good combustion practices to ensure that the incinerators maintain optimal thermal destruction efficiency, thereby preventing the formation of hazardous byproducts and ensuring continuous compliance with established emission limits. It is expected that the proposed design operating incineration temperatures as stated in permit application will allow Fort Detrick to comply with emission limitations set in the NSPS Subpart Ec regulations. According to NSPS Subpart Ec regulations, the emissions limits apply at all times and temperature requirements are site-specific based on performance testing, rather than a universal temperature range.

MDE also acknowledges the physical reality that combustion systems, including HMIWI, experience temperature transients during startup, shutdown, or malfunction (SSM) periods. However, under the Subpart Ec, emissions limits apply continuously at all times (§ 60.56c(a)). Although Subpart Ec does not clearly limit the charge of waste during periods of SSM, Fort Detrick will be restricted from doing so as stated in Condition D(5) of the permit to construct. This restriction is based on the SSM definitions, as listed in § 60.51(c). The referred condition has been added to the permit:

The Permittee is restricted from charging medical waste into the primary combustion chamber until the secondary combustion chamber has been preheated to and maintained at the “minimum secondary chamber temperature” as defined in §60.51(c). The Permittee is also restricted from charging additional medical waste into the primary combustion chamber during periods of shutdown and malfunction as defined in §60.51(c).

In §60.51(c), SSM are defined as follows:

“Startup means the period of time between the activation of the system and the first charge to the unit. For batch HMIWI, startup means the period of time between activation of the system and ignition of the waste.

Shutdown means the period of time after all waste has been combusted in the primary chamber. For continuous HMIWI, shutdown shall commence no less than 2 hours after the last charge to the incinerator. For intermittent HMIWI, shutdown shall commence no less than 4 hours after the last charge to the incinerator. For batch HMIWI, shutdown shall commence no less than 5 hours after the high-air phase of combustion has been completed.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions. During periods of malfunction the operator shall operate within established parameters as much as possible, and monitoring of all applicable operating parameters shall continue until all waste has been combusted or until the malfunction ceases, whichever comes first."

The SSM definitions clearly point out that the intent is for operators to restrict the charge of waste during temperature transition periods and other malfunctioning situations.

Fort Detrick stated in Section 2.4 of the permit application that "the incineration and APC systems will be fully integrated and controlled to operate together as a single unit in an efficient, safe manner for all operating modes, inclusive of startup and preheating, steady-state operations, burndown, and cool down periods." Fort Detrick also stated that all of this will be "accomplished via PLC-based controls and instrumentation and an operator interface located within a centralized main control panel." Also, "the operator interface panel will enable operating personnel to continually monitor all system processes, key operating parameters, and the status of all components on a real-time basis.".

Comment 16 – Alternatives to Incinerators

Incineration of medical waste is a 20th century approach to the handling of a waste stream that has much safer, less polluting options including autoclaving, microwaving, steam treatment integrated with internal mixing, which minimize the formation and release of chemicals or hazardous emissions.

According to Healthcare Without Harm, an organization that has been leading the effort to reduce the health harms from disposing of medical waste for decades, Incineration should be phased out. It produces pollutants that threaten human health and the environment. Health Care Without Harm has helped to affect the closure of more than 4,400 carcinogenic medical waste incinerators, helping hospitals to save money, reuse materials, reprocess surgical supplies, and utilize alternative waste treatment strategies.

The commenter strongly urges decision makers to halt this proposal, conduct a full and transparent health and environmental impact assessment, and prioritize safer, non-incineration methods for medical waste management. The health of our community, our children, and future generations must come first.

MDE Response:

In evaluating the management of infectious waste, MDE acknowledges the availability of alternative treatment technologies such as autoclaving, microwaving, and integrated steam treatment. However, the selection of treatment technology is often dictated by the specific composition of the waste stream. While non-incineration alternatives are effective for many

infectious materials, certain components of the medical waste stream specifically pathological waste and trace chemotherapy waste are legally and technically required to be incinerated in Maryland to ensure complete destruction as per Maryland Department of Health, COMAR 10.06.06.07 – Disposal of Special Medical Waste; and the U.S. EPA, 40 CFR Part 60 Subpart Ec (Standards of Performance for New Stationary Sources: Hospital/Medical/Infectious Waste Incinerators).

In accordance with the performance standards of 40 CFR, Part 60, Subpart Ec, modern incinerators are operated as highly controlled systems designed to achieve deep thermal destruction. To meet stringent federal and state emission limits such as 18 mg/dscm for particulate matter and 5.1 ppmv for hydrogen chloride. These units typically employ a secondary combustion chamber maintained at high temperatures (often 1,800 F), integrated with Carbon Adsorber Unit [Powdered Activated Carbon (PAC)] and High-Efficiency Fabric Filters. These controls ensure that hazardous pollutants are reduced to levels that meet or exceed all applicable safety standards.

By applying these rigorous permitting requirements and mandatory health risk assessments under COMAR 26.11.15, MDE ensures that incineration when required is conducted using 21st-century environmental safeguards that protect public health and minimize the release of toxic substances.

The Department received an air quality permit to construct application for burning medical waste, and the Department reviewed the application based on its expected air pollution impact. The Department does not have the authority to require an applicant to consider an alternative type of medical waste incineration.

Fort Detrick has offered the following additional response:

While alternative disposal methods were evaluated, thermal destruction via incineration is deemed essential for specific waste streams, such as pathological and classified materials, which require complete sterilization and secure disposal. The facility's design incorporates advanced emission controls and N+1 system redundancy to guarantee operational reliability and safety, even for sensitive on-site locations like laboratories and greenhouses. Consequently, the proposed incinerator represents the most effective and responsible solution for managing Fort Detrick's unique and varied waste disposal requirements.

Multiple alternatives were considered how to best manage the medical waste generated on Fort Detrick. To ensure that the medical wastes are managed in a safe and responsible manner, it was concluded that the preferred alternative was to install new modern state-of-the-art incinerators and manage the medical wastes onsite rather than ship wastes through the community and on highways to third party managed medical waste disposal facilities. Laboratories have procedures and policies in place to segregate materials that can be recycled or managed as typical waste refuge. Non-contaminated packing and refuse are not sent for incineration. Medical wastes are segregated for proper handling and incineration.

Comment 17 – General Air Quality & Climate Crisis

Incineration also drives the climate crisis releasing CO2 and black carbon.

MDE Response:

Total potential GHG emissions (as CO2eq) from the medical waste incinerators are expected to be less than 5,500 tons per year, less than 6% of the major source threshold of 100,000 tons per year for a new source of GHG emissions. As of 2023, statewide CO2 emissions are over 80 million metric tons.

MDE's plan to reduce statewide greenhouse gas emissions by 60% by 2031 focuses on targeting the sectors that constitute the largest share of greenhouse gas emissions and includes a variety of regulatory measures, incentive programs, and transportation related improvements to reduce emissions across several broad sectors.

Many of these measures, especially those that apply to businesses, will take the form of new regulations that drive emission reductions for an entire sector through, for example, the use of alternative fuels, clean power, zero-emission heating equipment, and the implementation of new greenhouse gas reduction standards for large buildings. The recently promulgated Building Energy Performance Standards regulation is a prime example.

Other reductions will accrue as electric vehicles, both cars and trucks, and through the offering of incentives to increase electric vehicle purchases, including school buses, and the equipment to charge them.

Programs to incentivize home electrification will provide additional reductions, along with reducing methane emissions from Maryland's landfills and natural gas infrastructure, the planting of 5 million trees and reducing vehicle miles traveled statewide.

Every new business, every new vehicle that uses fossil fuel and every new building that is constructed will add some amount of CO2 emissions to the atmosphere. Addressing climate change does not stop new construction or purchases or new or replacement equipment, it requires such construction and purchases to meet whatever new requirements are put in place at the time construction takes place or purchases are made.

The full state plan to reduce greenhouse gas emissions can be found here.

According to the U.S. Environmental Protection Agency (EPA), black carbon (BC) is the most strongly light-absorbing component of particulate matter (PM) emitted directly into the atmosphere as fine particles (PM2.5). It is a major component of soot, formed by the incomplete combustion of fossil fuels, biofuels, and biomass.

Regarding the impact of Black Carbon, the Department is prioritizing the mitigation of fine particulate matter (PM2.5) which directly impacts respiratory health. To address the specific threat

of soot, the proposed permit requires the installation of advanced Air Pollution Control Systems, including high efficiency fabric filters designed to continuously achieve compliance with the strict HMIWI particulate matter emission standard of 0.008 gr/dscf before exhaust reaches the stack.

Comment 18 – Environmental Justice Issues

The commenter states that "the environmental injustice associated with plans to locate this incinerator in an area near to communities are already overburdened with sources of environmental pollution."

The commenter requested to reconsider this permit to construct and the potential negative impacts it will have on environmental justice impact communities surrounding Area A. Residents near Fort Detrick already face the impacts of other pollution sources on Area A in close proximity to the proposed medical waste incinerator, the Superfund NPL site surrounding Area B, and historical contamination around the installation.

"Fort Detrick is surrounded on several sides by communities identified as disadvantaged and thus qualifying for additional analysis under the state's Environmental Justice law passed in 2022." She also mentions the significant impact these communities would suffer should an accident occur.

While on-site medical waste incineration is often justified as a way to reduce transportation risks, ensure destruction of regulated waste, and improve operational efficiency, these arguments do not adequately address the public health and environmental justice consequences of placing a continuous emissions source in close proximity to residential communities with Environmental Justice (EJ) Scores above the 75th percentile statewide.

Environmental justice requires more than meeting individual emission limits; it requires avoiding the placement of new pollution sources in already overburdened communities when less harmful alternatives exist. For these reasons, I urge the MDE to reconsider and deny this permit.

How exactly did MDE evaluate cumulative air toxics exposure and long-term health risk to nearby EJ communities when determining that permitting a new incinerator at this location is protective of public health, particularly given existing pollution burdens and the facility's prior compliance history?

A commenter states that "approving this permit would also contradicts Maryland's goals on environmental justice."

The census tract immediately to the south of Area A, just half a mile away from the proposed site for this medical waste incinerator, has an EJ score of 85 and is both underserved and overburdened according to the definitions in Maryland State law. And the same is true for two other census tracts to the south within a mile of the proposed location for the medical waste incinerator.

MDE Response:
Environmental Justice is defined under Maryland state law as "equal protection from environmental and public health hazards for all people regardless of race, income, culture, and social status."

Historically, communities surrounded by a disproportionate number of polluting facilities are at a higher risk for health problems from environmental exposures. To ensure meaningful involvement in the permitting process, it is important that residents who may be adversely affected by a proposed source are fully informed of the existing environmental issues within their community. MDE is addressing environmental disparities by building relationships with communities and equipping them with the tools and knowledge to participate effectively in decision-making processes involving those who contribute to the issues. More information regarding MDE's efforts can be found on the Department's website here.

In 2022, the Maryland General Assembly passed HB 1200, which required MDE to consider overburdened and underserved communities within the Department's permitting process..In accordance with HB 1200/Ch. 588 of 2022, an applicant is required to provide an environmental justice (EJ) Score for the census tract in which the proposed source is located. The EJ Score, expressed as a statewide percentile, was shown to be 22 using the previous Maryland EJ Tool, which the Department verified.

Using MDE's revised MDEnviroScreen tool, the EJ Score for the census tract where the proposed source is located is now 48.6. The MDEnviroScreen report also shows that the proposed source is located in an area where at least five pollution indicators are in the 75th percentile or higher. The MDEnviroScreen score represents a combined measure of pollution and the potential vulnerability of a population to the effects of pollution. Communities with high indicator scores, particularly those with five or more indicators at or above the 75th percentile, should have more opportunities to participate in the permit process and understand a project's potential impacts.

Based on the new MDEnviroScreen results, the Department took additional steps since the release of the new tool to reach out to Frederick County officials and community groups ahead of the public hearing. To ensure that residents were afforded broader opportunities to participate in the permit process, the Department provided both an in-person and virtual public hearing, along with language translation and sign language services at the public hearing upon request.

MDE completed its technical review of the permit application and found that the Fort Detrick medical waste incinerator is expected to comply with all the applicable air quality standards and regulations.

Comment 19 – Incinerator Emissions Contradict Maryland's Goals
The commenter is very concerned about reopening the medical waste incinerator. Medical waste incineration is among the most polluting industrial sources per ton of waste treated. And according

to the EPA, medical waste incinerators are the second largest source of dioxin emissions in the country. Even when incinerator emissions are technically within limits, the additional release of dioxins, heavy metals, and fine particulate matter contradicts Maryland's goals for reducing air toxics and improving nonattainment status.

A commenter stated that "The State has specific emissions reduction goals for CO2 in the 2022 Climate Solutions Now Act and Frederick City has adopted a resolution to reduce urban CO2 emissions proposed in the 2021 Climate Response and Resilience Report."

MDE Response:
While all operations must strictly adhere to EPA-required emission limits, MDE recognizes the inherent tension between industrial incineration and Maryland's aggressive environmental benchmarks. In evaluating this proposal, the Department remains committed to ensuring that all permitted activities are consistent with the state's goal of improving nonattainment status and reducing air toxics.

As stated in the Department's response to Comment 14, for all medical waste incinerator toxic air pollutants, including mercury and dioxin/furan, the expected emissions from the proposed incinerator will not exceed the short-term or long-term exposure limits established for each pollutant that are protective of public health.

As stated in the Department's response to Comment 17, total potential GHG emissions (as CO2eq) from the medical waste incinerators are expected to be less than 5,500 tons per year, less than 6% of the major source threshold of 100,000 tons per year for a new source of GHG emissions. As of 2023, statewide CO2 emissions are over 80 million metric tons.

Comment 20 – Close Residential Area/ Densely Populated Area Comments
The proposed build is very close to residential areas and schools. Any pollution generated or accidents that occur at the waste management sites will directly impact these vulnerable populations and our children.

The health and environmental impacts of having a medical waste facility near residential populations has been studied for many years and proves very negative for the surrounding communities. A quick Pubmed search will show you there is a net negative for the community by having these facilities nearby. Coupled with previous violations and closure of the prior facility, it makes no sense to build two new ones where the original plants were forced to close.

We own property in the area of one of its direct neighbors, Clover Hill. This community is home to many retirees and young families who have enough health issues to deal with without poisoning their air and water. The Whittier Elementary School and neighborhood is just down the road, putting many children at potential risk, especially those children like my granddaughter who has, in her short life, been hospitalized multiple times with breathing issues.

My name is Molly Carlson and I am writing to express concern about the proposed air quality permit at Fort Detrick for medical waste incineration. While Ft. Detrick may have been in a rural location when it was initially built, there has been extensive development around the fort including several areas already disproportionately impacted by environmental concerns, particularly the designated “ENOUGH” community under Governor Moore.

Surely there are less-populated locations within the county where is important work could be conducted. Thank you for soliciting feedback, and please extend the period for public comment, as this was only recently brought to my attention.

I do also recognize the need for military installations to securely dispose of various types of waste. However, I feel that sticking an incinerator in the heart of one of the largest cities in Frederick County is inappropriate. I don’t know exactly the demographics of the area around the Baltimore incinerator, but I have to imagine that there are alternative solutions for Incinerators that are both state of the art AND not located directly in a major city or neighborhood. I would prefer to pay more in taxes to securely ship to a more remote incinerator than have one that I drive by when going to the grocery store or the dentist.

We often hear alarm sounds coming from the Detrick area, but we have never been advised of what these alarms mean. If it warrants an alarm, then the surrounding neighborhood should know what the alarm means and what, if any, action they should be prepared to take. Construction of medical waste incinerators and the resulting air pollution should not be allowed to occur in or near residential neighborhoods.

Consider not only the impact to the Clover Hill neighborhood, but the many surrounding housing areas: Amber Meadows, West Hills, Old Farm, Young Place, Lee Place, Wilson Ave, Rosemont Ave, Citizens Nursing Home. Should an incident occur, thousands of people would be impacted.

MDE Response:
MDE acknowledges the community's valid concerns regarding health and environmental impacts on vulnerable populations, particularly children and those with pre-existing respiratory conditions. With this in mind, the proposed incinerators will utilize state-of-the-art emission control technologies, including multi-stage scrubbing and continuous monitoring systems to ensure proper operation and minimize air quality impacts.

The requirement for high security "on-site" disposal is critical to maintaining a closed chain of custody for sensitive materials, thereby avoiding the greater risks associated with transporting such waste through public transit corridors.

The Department cannot specify where a new source may be located. The Department’s decision on the air quality permit application is based solely upon the projected air pollution related environmental impact on the area. Local issues, such as zoning and land use, are under the purview of Frederick County and the federal government as Fort Detrick is a federal facility located on land owned by the federal government. MDE does not have the authority to question or

challenge local zoning decisions. State law precludes the Department from considering these land use issues. Ft. Detrick is under the jurisdiction and control of the U.S. Army and is not subject to local land use regulations. As such, the Department is required to review an air quality permit application and make a determination to either issue or deny a permit.

Fort Detrick offered the following additional response:

The incinerator is designed to be a modern state of the art facility with process and emission controls in place to prevent operation outside of the design parameters. The new incinerators (designed with modern controls and monitoring capabilities) replace an outdated facility that was built along the fenceline. The operation of the former facility never resulted in alarm situations that impacted workers, the installation or the community.

Sounds from Fort Detrick that community members can hear include daily Reveille and Retreat which signals the start and end of the duty day. This is performed to honor the raising and lowering of the U.S. Flag. The notifications are made through an installation area wide Mass Warning and Notification Systems (MWNS) not unlike systems used by communities across the nation. In addition, on the first Monday of each month, USAG Fort Detrick tests the Mass Warning and Notification Systems (MWNS) at noon for approximately 5 minutes or less. During the test, information is provided that lets the listeners know that the alarm is only a test.

Additional sounds heard by the community include emergency response vehicles. The Fort Detrick fire department has a mutual response aid agreement with the City of Frederick fire department to provide assistance as needed for community emergency fire and Hazmat spill events. Throughout the year, community members will hear our Fire Department responding to offsite emergencies in support of the community.

Comment 21 – General Impact Comments

… outrage that residents feel when some entity thinks it's OK to put all their toxic junk in our backyard..

Community distrust of Ft. Detrick's experiments and research has long been a concern. In 2009, a study from the National Research Council showed that Ft. Detrick had not taken the appropriate actions to prevent groundwater contamination…

Fort Detrick already carries a long and complex environmental legacy. Introducing additional sources of toxic emissions raises grave concerns about compounding contamination and eroding public trust.

Communities surrounding the site deserve remediation, transparency, and protection – not new industrial hazards.

The prospect of having these near my home in Clover Hill, which abuts Detrick on multiple sides, is frightening and at the very least dangerous. For too long- since the days of the"8 Ball" when my father worked there- Detrick's officials have misled and obscured from the public activities that pose a danger to the health and wellbeing of citizens living nearby.

Bad policy is ruining Frederick County one decision at a time, from the County Executive and County Council's approval of a huge pollutive/energy & water abusing data center overlay zone to this. It's like the health, well-being, and quality of life of the people who choose to live here doesn't matter at all.

We retired and moved from Virginia to Frederick County hoping to live out the next 20-30 years enjoying its beauty. With the recent data center decisions and proposals like allowing a medical waste incinerator in the middle of a highly populated area, I think we made the wrong decision. Please prove me wrong and do NOT allow the medical incinerator to operate at Ft. Detrick.

I am writing to vehemently oppose the proposal to build 2 medical waste incinerators at fort detrick that would be burning 550 pounds of toxic medical waste and plastics an HOUR!

This is deplorable and cannot be allowed to happen. Our planet can no longer bear the destruction and waste, this is our home and we must take care of it. Please please please do not move forward with this project. Frederick deserves better!

If human life is valued at ALL within Maryland Government, it absolutely cannot be allowed to build these chemical-nightmare pollution machines.

MDE representatives at the October 29, 2025 public meeting stated that the proposed facility would meet all air quality standards. Frederick area residents weighed in several years ago, noting that they did not want incinerators in the community. However, the unique operations at Fort Detrick may be a significant consideration to allow incineration of this specialized waste for the US Army as well as Frederick residents, but there are other important considerations.

MDE Response:
The Department has thoroughly reviewed the testimonies submitted by concerned citizens and elected officials from the community. The Department recognizes that these collective comments reflect a deep-seated commitment to Frederick County's environmental integrity and the overall health of its residents. However, land-use decisions, including zoning overlays, are not under the Department's authority. The Department's application review process considers broad health and environmental impacts, including whether the facility will meet national and State Air Quality Standards. As a result, the Department will ensure that any air quality permit includes provisions to ensure these standards are maintained. The permit would also outline clear rules for enforcement if any conditions are not followed.

In response to concerns regarding burning of 550 pounds of waste per hour, the Department emphasizes that any proposed thermal destruction technology must adhere to the strictest

modern standards under the federal Clean Air Act. Unlike the incinerators of the past, contemporary systems are engineered with high-efficiency scrubbers and continuous monitoring to mitigate toxic emissions and prevent the "industrial wasteland" scenario feared by the public.

Comment 22 – History of Mismanagement & Non-Compliance and Other Environmental Issues

There has been a history of non-compliance and a failure to maintain healthy standards as required for operation and maintenance between 1995 and 2018. In fact, a similar system was shut down as the result of an Environmental Protection Agency Region III inspection which identified areas of noncompliance due to ongoing operational and maintenance issues.

What has truly changed since then that guarantees this will not happen again?

Fort Detrick has been mismanaging their waste facilities and being difficult to work with in order to manage their emissions and impact on the local community. Frederick needs to worry more about their growing population and protect the health of that population.

I have 4 girls, live behind Whitter, grew up in Clover hill and our community has suffered horribly from Ft Detrick polluting the well water. Cancer, illness and chronic problems persist- we have a Superfund site on Kemp lane due to poor waste disposal and they have already violated these same regulations in the past. They can ship the waste to another facility to be destroyed.

A Commenter asked “what assurances can be made that water and soil quality will not be affected.”

My family has been Clover Hill residents since 1996. In all the years we have lived here we have always had concerns wondering how safe our water is. We have had it tested several times over the years and have had to do things to make the water safer and still to this day we do not drink our water. We buy bottled water. Our community has never really felt comfortable with how truthful they really have been about the water situation.
Now we have this new situation which I and my neighbors had not heard a word about and one of them are on the Clover Hill Civic Assoc Board. That in itself seems very sneaky and scary. They once had an incinerator that got shutdown in 2018 after an EPA inspection for non-compliance. Based on the history of issues with the communities surrounding Ft Detrick why would we think they will be in compliance this time?

Claims that modern incinerators are “cleaner” do not resolve these concerns. Permit compliance does not account for cumulative exposure over time, particularly on communities already burdened by multiple pollution sources. Residents near Fort Detrick already face impacts from existing activities on Area A, the Superfund National Priorities List site surrounding Area B, and historical contamination associated with the installation. Adding a new incinerator further compounds these documented environmental burdens.

Moreover, the previous medical waste incinerator at Fort Detrick was shut down following an EPA Region III inspection that identified ongoing operational and maintenance noncompliance. The history warrants heightened scrutiny rather than reliance on assurances or promises of improved performance.

MDE Response:
MDE acknowledges the community's valid concerns regarding the historical environmental impact and past compliance concerns, specifically around the 2018 closure of the previous incinerator. This new permit would replace the outdated 1995 system with a modern installation including strict safety measures, like backup pollution controls and continuous air monitoring, to ensure standards are being met. The permit would also outline clear rules for enforcement if any conditions are not followed. The MDE Air Quality Permits and the Air Quality Compliance Programs are dedicated to ensuring that adequate health and environmental protections are established and strictly enforced for the benefit of the community.

Fort Detrick has provided the following additional response:

The old medical waste incinerators were voluntarily shut down by Fort Detrick due to the level of effort and changes that would have been needed to re-engineer and install a modern comprehensive integrated control, data logging and monitoring systems to demonstrate/confirm continuous compliance on the aged incinerator equipment. The old system was equipped with aged analog and non-integratable controls and monitoring systems. However, it should be noted that the old incinerators operated for decades without community impacts and met permit limitations. The new state-of-the-art incinerators are engineered from the start to have comprehensive controls for all the equipment and integrated monitoring systems to ensure compliance. The modern air pollution control systems are also more efficient and cleaner than the old incinerators.

The incinerator will be operated in full compliance with all applicable solid waste and air permit regulations. The incinerator operations have not and will not have any anticipated pathways that could negatively impact soil or water resources onsite or in the surrounding community.

Fort Detrick has been in operation since the 1950s. Prior to the enactment of environmental regulations (specifically the Resource Conservation and Recovery Act in 1976) the standard industry wide practice used across the country was to bury waste in disposal pits and unlined landfills, often located on a facility's property. Fort Detrick also followed this standard industry practice and buried chemical wastes on our Area B. This practice ended in 1976. However, these past practices have led to groundwater contamination. The main contaminants of concern include the chlorinated solvents: perchloroethylene, trichloroethylene and chloroform. It should be noted that none of these solvents are associated with operation of a medical waste incinerator. In 2009, Fort Detrick's Area B groundwater was added to the Superfund listing.

In 1990, the Army constructed a modern lined municipal landfill on Area B. This landfill was reviewed and permitted by the Maryland Department of the Environment. The landfill is only used

for non-hazardous municipal waste and incinerator ash. Since 1976, all hazardous chemical wastes have been shipped off-site to proper disposal facilities.

In 1992, Fort Detrick implemented an Installation Restoration Program to investigate and remediate the former disposal areas. Comprehensive remedial investigations were completed to determine the nature and extent of soil and groundwater contamination from the past disposal practices. The old disposal areas were capped in 2010 using the EPA presumptive capping remedy which features an impervious liner to prevent exposure to waste and contaminated soils. Currently Fort Detrick is planning a pilot scale groundwater treatment system to address groundwater contamination. Results of the test will guide the development of a full scale treatment system to address the Area B groundwater contamination.

MARYLAND DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION ADMINISTRATION

FINAL DETERMINATION CONCERNING A PERMIT-TO-CONSTRUCT APPLICATION SUBMITTED BY US ARMY GARRISON – FORT DETRICK FOR THE INSTALLATION OF TWO (2) MEDICAL WASTE INCINERATORS AND ONE (1) NATURAL GAS FIRED EMERGENCY GENERATOR.

I. INTRODUCTION

The Maryland Department of the Environment (the "Department") received an application from US Army Garrison – Fort Detrick on October 29, 2024 for a Permit to Construct for the installation and operation of two (2) new multiple chamber medical waste incinerators (MWI) each with a rated capacity of burning 550 lb/hr, equipped with air pollution control systems, & one (1) natural gas fired emergency generator rated at 1000 kW. The proposed project will be located at 8425 Navy Way, Fort Detrick, MD 21702.

On February 26, 2025, an informational meeting was held at the Hampton Inn and Suites Frederick Fort Detrick located at 1565 Opossumtown Pike, Frederick, MD 21702 to provide interested parties opportunities to discuss with the Company and the Department the permit application and the proposed installation.

After reviewing the application and other pertinent information, the Department made a tentative determination to issue a permit-to-construct that would authorize construction of the installation as proposed in the Company's applications. A draft permit with draft conditions was made available for public review on the Department's website. A Notice of the Tentative Determination, Public Hearing, and Opportunity to Submit Written Comments was published in the Frederick News-Post on October 8, 2025, and again on October 15, 2025.

On October 29, 2025, a hybrid public hearing was held at the Hampton Inn and Suites Frederick Fort Detrick located at 1565 Opossumtown Pike, Frederick, MD 21702 to provide interested parties an opportunity to comment on the Department's tentative determination and draft permit conditions, and/or to present other pertinent concerns about the proposed installation.

II. COMMENTS RECEIVED AND THE DEPARTMENT'S RESPONSE

The public comment period on the application initially expired on November 7, 2025, but was extended until January 6, 2026, following public request for a one-time, 60-day extension. The comments received at the public hearing, and those submitted in writing during the public comment period, expressed concerns about the impact of the proposed new installation on the surrounding community. The Department's responses to the comments are attached.

III. DEPARTMENT'S FINAL DETERMINATION

The Department has reviewed the application and the comments received and has determined that the proposed installation would not cause violations of any applicable air pollution control regulations.

The Department has made a final determination to issue the permit-to-construct. A copy of the final permit to construct conditions is included in the public docket.