Evaluation of EPA Policies, Procedures, and Processes for ASPECT Flight Missions

June 2, 2025 | Report No. 25-E-0034



Report Contributors

Bao Chuong Sarah Davidson Gabby Fekete Steve Hanna Gaida Mahgoub Lumi Mema

Abbreviations

ASPECT	Airborne Spectral Photometric Environmental Collection Technology
CBRN CMAD	Chemical, Biological, Radiological, and Nuclear Consequence Management
	Advisory Division
COR	Contracting Officer Representative
EPA	U.S. Environmental Protection Agency
EST	Eastern Standard Time
OEM	Office of Emergency Management
OIG	Office of Inspector General
OSC	On-Scene Coordinator

Cover Image

Aerial image of the train derailment site in East Palestine, Ohio, on February 7, 2023. (EPA image)

Are you aware of fraud, waste, or abuse in an EPA program?

EPA Inspector General Hotline 1200 Pennsylvania Avenue, NW (2431T) Washington, D.C. 20460 (888) 546-8740 OIG.Hotline@epa.gov

Learn more about our OIG Hotline.

EPA Office of Inspector General 1200 Pennsylvania Avenue, NW (2410T) Washington, D.C. 20460 (202) 566-2391 www.epaoig.gov

Subscribe to our <u>Email Updates</u>. Follow us on X <u>@EPAoig</u>. Send us your <u>Project Suggestions</u>.



Evaluation of EPA Policies, Procedures, and Processes for ASPECT Flight Missions

Why We Did This Evaluation

To accomplish this objective:

The U.S. Environmental Protection Agency Office of Inspector General conducted this evaluation to determine whether the EPA and its contractors followed Airborne Spectral Photometric Environmental Collection Technology flight equipment deployment procedures during the East Palestine, Ohio train derailment emergency. This evaluation is in response to a complaint submitted to the OIG Hotline.

On February 3, 2023, a freight train carrying hazardous materials derailed in East Palestine, Ohio, spilling chemicals into a ditch, igniting a fire, and leading to a controlled burn of vinyl chloride-containing railcars. EPA on-scene coordinators and other staff responded to the emergency. The hotline complainant alleged that the aircraft flown in support of the emergency response did not follow normal Agency practice and that there was a several-day delay in activating the Airborne Spectral Photometric Environmental Collection Technology after the derailment, leading to an unnecessary controlled burn.

To support this EPA mission-related effort:

 Operating efficiently and effectively.

Address inquiries to our public affairs office at (202) 566-2391 or OIG.PublicAffairs@epa.gov.

List of OIG reports.

What We Found

During its response to the East Palestine, Ohio train derailment, the EPA and its contractors followed existing practices for deploying the Airborne Spectral Photometric Environmental Collection Technology, or ASPECT, aircraft. The EPA does not immediately deploy ASPECT in response to all releases of hazardous materials. Instead, the Agency deploys ASPECT at the request of the EPA on-scene coordinator.

When the EPA's lead on-scene coordinator arrived at the train derailment site in East Palestine, the coordinator assessed the ground-level air monitoring that was in place. The coordinator believed that this monitoring captured better data than ASPECT could and believed that the ground-based temperature gauges used to monitor the temperature of the vinyl chloride-containing railcars were sufficient to inform the decision about a controlled burn. Later, the coordinator consulted with the ASPECT program branch chief. During that consultation, the coordinator requested that the EPA deploy the ASPECT aircraft to monitor the controlled burn of the affected vinyl chloride-containing railcars the following day.

The ASPECT aircraft took off 28 minutes after the program branch chief issued the mission order, consistent with the contractual agreement that the aircraft take off within 90 minutes of a mission order during nonbusiness hours. However, according to the EPA, the aircraft did not fly over the derailment as planned on the day of the controlled burn because of the pilots' safety concerns regarding low-hanging clouds and icing conditions. The ASPECT aircraft conducted two flight missions the day after the controlled burn. According to the EPA, data collected from the aircraft indicated a successful controlled burn of the railcars.

The emails and documents we reviewed and the interviews we conducted did not support the allegations that the ASPECT aircraft did not follow normal Agency practice or the allegations that there was a several-day delay in activating ASPECT after the derailment. Although the EPA followed existing practices for deploying ASPECT, the documented procedures that were in place remain largely unknown to all involved stakeholders and lack the clarity needed to avoid negatively affecting decision-making related to an emergency response.

Relying on procedures that are unknown to all involved stakeholders could negatively affect emergency response decision-making.

Recommendations and Planned Agency Corrective Actions

We make four recommendations to the assistant administrator for Land and Emergency Management. Specifically, we recommend that the assistant administrator develop a formal, written ASPECT deployment procedure; regularly train the EPA on-scene coordinators on the deployment procedure; develop and implement a contact system to ensure the timely receipt of and response to ASPECT deployment requests; and update the ASPECT fact sheet to list the full range of capabilities and share the fact sheet with the on-scene coordinators. The Agency agreed with our recommendations and developed corrective actions that meet the intent of the recommendations. All recommendations are resolved with corrective actions completed or pending.



OFFICE OF INSPECTOR GENERAL U.S. ENVIRONMENTAL PROTECTION AGENCY

June 2, 2025

MEMORANDUM

SUBJECT: Evaluation of EPA Policies, Procedures, and Processes for ASPECT Flight Missions Report No. 25-E-0034

FROM: Nicole N. Murley, Acting Inspector General Musle N. Muley

TO:Barry Breen, Principal Deputy Assistant AdministratorOffice of Land and Emergency Management

This is our report on the subject evaluation conducted by the U.S. Environmental Protection Agency Office of Inspector General. The project number for this evaluation was OSRE-FY24-0103. This report contains findings that describe the problems the OIG has identified and corrective actions the OIG recommends. Final determinations on matters in this report will be made by EPA managers in accordance with established audit resolution procedures.

The Office of Land and Emergency Management is responsible for the issues discussed in this report. In accordance with EPA Manual 2750, your office completed corrective actions for Recommendation 3. Your office also provided acceptable planned corrective actions and estimated milestone dates in response to Recommendations 1, 2, and 4. All recommendations are resolved, and no final response to this report is required. If you submit a response, however, it will be posted on the OIG's website, along with our memorandum commenting on your response. Your response should be provided as an Adobe PDF file that complies with the requirements of section 508 of the Rehabilitation Act of 1973, as amended. The final response should not contain data that you do not want to be released to the public; if your response contains such data, you should identify the data for redaction or removal along with corresponding justification.

We will post this report to our website at <u>www.epaoig.gov</u>.

Table of Contents

Purpose1
Background1
Train Derailment1
The EPA's ASPECT Aircraft
Responsible Offices
Scope and Methodology5
Prior Reports
Results
The EPA Deployed the ASPECT Aircraft to the Train Derailment in a Timely Manner
The EPA Followed Existing Practices for Deploying ASPECT
The Existing Practices for Requesting ASPECT Deployment Lack Clarity and
Internal Controls that Would Facilitate a Timely Response
The EPA On-Scene Coordinators May Be Unaware of All ASPECT Capabilities8
Conclusions9
Recommendations
Agency Response and OIG Assessment10
Status of Recommendations11

Appendixes

А	Agency Response to the Draft Report	12
В	Distribution	16

Purpose

The U.S. Environmental Protection Agency Office of Inspector General initiated this evaluation to determine whether the EPA and its contractors followed Airborne Spectral Photometric Environmental Collection Technology, or ASPECT, flight equipment deployment procedures during the East Palestine, Ohio train derailment emergency. This evaluation is in response to a complaint submitted to the OIG Hotline. The complainant alleged that the ASPECT aircraft flown in support of the East Palestine emergency response did not follow normal Agency practice and that there was a several-day delay in activating ASPECT after the derailment, leading to an unnecessary controlled burn.

Background

Train Derailment

At 8:54 p.m. Eastern Standard Time, or EST, on February 3, 2023, a freight train derailed in East Palestine, Ohio. East Palestine is about a quarter mile west of the Ohio–Pennsylvania border. The freight train had 149 railcars. Of those, 38 railcars derailed, 11 of which carried hazardous materials, including vinyl chloride, ethylene glycol monobutyl ether, butyl acrylates, and isobutylene. Some railcars spilled hazardous chemicals into an adjacent ditch that feeds the Sulphur Run stream, which eventually empties into the Ohio River. During the derailment, a fire ignited and involved 35 railcars. These railcars included "3 mechanically breached hazardous materials tank cars, 20 additional derailed tank and freight cars carrying both hazardous and non-hazardous materials, and 12 non-derailed freight cars."¹



An aerial view of the freight train derailment in East Palestine, Ohio. Source: National Transportation Safety Board <u>news release</u>, dated June 25, 2024. (National Transportation Safety Board image)

¹ National Transportation Safety Board, <u>Railroad Investigation Report RIR-24-05</u>, dated June 25, 2024.

Around 9:00 p.m. EST on February 3, 2023, the East Palestine Police Department and the East Palestine Fire Department arrived at the train derailment site. The East Palestine Fire Department deputy fire chief assumed the incident commander role and instructed the firefighters to spray water over the burning railcars. At 2:00 a.m. EST on February 4, the East Palestine Fire Department chief arrived at the derailment site and assumed the incident commander role. At the same time, EPA on-scene coordinators, or OSCs, were en route to the derailment site. According to the EPA, OSCs "are the federal officials responsible for monitoring or directing responses to all oil spills and hazardous substance releases reported to the federal government. OSCs coordinate all federal efforts with, and provide support and information to, local, state and regional response communities." The EPA's OSCs are responsible for spills and releases to inland areas and waters, while the U.S. Coast Guard's OSCs are responsible for coastal waters and the Great Lakes.

The National Transportation Safety Board reported that the fire that ignited during the derailment resulted in several fires involving the breached freight tank cars. These fires continued until the afternoon of February 4 and smoldered for several days after the derailment. According to the National Transportation Safety Board, at around 4:00 p.m. EST on February 5, the freight train company's contractor personnel began monitoring the temperature of five railcars containing vinyl chloride. The contractors used infrared thermometers to determine whether there was potential for a boiling liquid expanding vapor explosion.² Because of concerns about an explosion, the freight train company contractors recommended to the East Palestine Fire Department chief a controlled burn of the vinyl chloride-containing railcars. Shortly after 12:00 p.m. EST on February 6, the incident command team met to decide whether a controlled burn of the vinyl chloride-containing railcars was the best option to mitigate the risk of an explosion.

Based on modeling that suggested the potential for an explosion that could cause debris to fly and injure people, the State of Ohio and the Commonwealth of Pennsylvania issued an evacuation order for a one-mile by two-mile area surrounding East Palestine. Upon completion of the evacuations, the freight train company personnel and its contractors met with the incident commander and the Ohio governor. They explained that they wanted to begin the controlled burn before 3:00 p.m. EST on February 6. The incident commander had 13 minutes to decide whether to allow them to proceed with the controlled burn. Although the incident commander approved the controlled burn, delays prevented the freight train company contractors from starting the controlled burn until 4:37 p.m. EST. According to a February 21, 2023 EPA action memorandum, the controlled burn ended by 9:00 p.m. EST. The incident commander lifted the evacuation order on February 8 after firefighters extinguished the remaining fires. Figure 1 includes additional details regarding the timeline of events.

² According to the National Transportation Safety Board's June 25, 2024 <u>report</u> on the incident, a "BLEVE [boiling liquid expanding vapor explosion] occurs when a tank car containing a liquified compressed gas (such as VCM [vinyl chloride monomer]) fails to contain its internal pressure," leading the liquid to vaporize and explode.

Figure 1: Timeline of the train derailment emergency in East Palestine, Ohio



Note: CBRN CMAD = Chemical, Biological, Radiological, and Nuclear Consequence Management Advisory Division. Source: The National Transportation Safety Board <u>news release</u>, dated June 25, 2024. (EPA OIG graphic) Per the June 25, 2024 National Transportation Safety Board <u>report</u> on the derailment, on-scene temperature trends of the five vinyl chloride-containing railcars did not indicate that a polymerization reaction was occurring, and post-accident examinations confirmed this.³ This means that the controlled burn was unnecessary to prevent a polymerization-induced explosion. According to the National Transportation Safety Board, the freight train company "compromised the integrity of the decision to vent and burn the tank cars [conduct the controlled burn] by not communicating expertise and dissenting opinions to the incident commander making the final decision."

The EPA's ASPECT Aircraft

The EPA deployed its ASPECT aircraft to collect data to support the East Palestine train derailment emergency response. According to the <u>EPA</u>, "ASPECT is the EPA's only airborne real-time chemical and radiological detection and infrared and photographic imagery platform. ... ASPECT consists of a suite of sensors and software mounted in a single engine turboprop aircraft." Except during maintenance periods that are communicated to the EPA's Emergency Operations Center in advance, the aircraft is available for deployment 24 hours per day, 365 days per year, with wheels-up capability within one hour during business hours and within 90 minutes during nonbusiness hours. Additionally, it can begin collecting data at any site in the continental United States within nine hours of deployment from its home base near Dallas, Texas.



The EPA's ASPECT aircraft. Source: The EPA's "ASPECT" <u>webpage</u>. (EPA image)

³ According to the National Transportation Safety Board, "[p]olymerization is the process by which relatively small molecules (monomers) combine chemically to create larger chain- or network-like molecules (polymers). VCM [vinyl chloride monomer] polymerizes into polyvinyl chloride (PVC), a hard plastic." Polymerization produces heat. The National Transportation Safety Board reported that the freight train company and its contractor personnel discussed that the polymerization of vinyl chloride could lead to a boiling liquid expanding vapor explosion.

Two contractors support the ASPECT program: an aircraft contractor and a data-processing contractor. The aircraft contractor flies the aircraft that houses the sensors and software that collect data from the flight patterns executed. The data-processing contractor processes the data collected and provides overall software and system development support. The contract between the aircraft contractor and the EPA runs from December 2, 2022, to December 2, 2027, and has a ceiling for the 60-month base period that may not exceed about \$15.5 million. The contract between the data-processing contractor and the EPA runs from July 8, 2021, through July 7, 2026, and has a ceiling for the 60-month base period that may not exceed about \$8.8 million. The EPA ASPECT program manager is the primary contracting officer representative, or COR, who monitors the contractors' performance and ensures that they meet their contractual commitments. According to an October 2024 version of an EPA fact sheet, the EPA has deployed the ASPECT aircraft more than 170 times since 2001.

Responsible Offices

The EPA Office of Land and Emergency Management's Office of Emergency Management, or OEM, is responsible for implementing and overseeing the ASPECT program. The OEM's Chemical, Biological, Radiological, and Nuclear Consequence Management Advisory Division, or CBRN CMAD, maintains and deploys the ASPECT aircraft. The EPA paid about \$4.6 million in fiscal year 2022 and about \$4.8 million in fiscal year 2023 to operate the ASPECT program. As of September 2024, the EPA had paid about \$2.2 million in fiscal year 2024 to operate the ASPECT program.

Scope and Methodology

We conducted this evaluation from July 2024 to March 2025 in accordance with the *Quality Standards for Inspection and Evaluation* published in December 2020 by the Council of the Inspectors General on Integrity and Efficiency. Those standards require that we perform the evaluation to obtain sufficient and appropriate evidence to support our findings.

To answer whether the EPA and its contractors followed ASPECT aircraft deployment procedures during the East Palestine, Ohio train derailment emergency, we reviewed the hotline complaint and information received from the hotline complainant. We also reviewed regulations relevant to the aircraft contractor on the deployment of the ASPECT aircraft. We obtained and reviewed ASPECT program information, quality management plans for the Office of Land and Emergency Management and OEM, the settlement agreement between the EPA and the freight train company, the EPA's quality assurance project plan for the ASPECT flight mission in East Palestine, the EPA's contracts with its ASPECT contractors, OEM-provided standard operating procedures related to ASPECT, the National Transportation Safety Board's final report on the East Palestine train derailment, and outreach information regarding ASPECT that the EPA planned to provide to the regions. We interviewed EPA contractors, the Region 5 OSC who requested ASPECT deployment, and ASPECT program personnel. We also obtained and reviewed emails of ASPECT program personnel, including meeting invitations sent or received from February 3–8, 2023, and communication records between the aircraft contractor crew and the ground crew, which consisted of EPA staff and EPA contractors. We also reviewed emails and

other documents that the complainant's counsel, the aircraft and data-processing contractors, and EPA personnel provided to us.

Prior Reports

Neither we nor the U.S. Government Accountability Office have issued any reports related to the East Palestine emergency response. However, we issued a <u>memorandum</u> on the results of our March 2023 <u>inquiry</u> into the EPA's response. The September 25, 2023 memorandum highlighted concerns regarding risk communication and hazardous waste and wastewater shipments. In addition, on December 16, 2019, we issued Report No. <u>20-P-0062</u>, *EPA Needs to Improve Its Emergency Planning to Better Address Air Quality Concerns During Future Disasters*, which included details on the Agency's use of the ASPECT aircraft after Hurricane Harvey.

Results

The Agency deployed the ASPECT aircraft in a timely manner after the OSC requested its deployment. Additionally, the EPA followed existing ASPECT flight deployment practices during the East Palestine, Ohio train derailment emergency. Although the EPA followed existing practices for deploying ASPECT, the documented procedures remain largely unknown to all involved stakeholders and lack the clarity needed to avoid negatively affecting decision-making related to an emergency response.

The EPA Deployed the ASPECT Aircraft to the Train Derailment in a Timely Manner

On February 4, 2023, around 2:00 a.m. EST, two EPA Region 5 OSCs and two EPA Superfund Technical Assessment and Response Team staff were en route to the train derailment. The lead OSC from Region 5 arrived on scene the morning of February 5 and assessed the ground-level air monitoring that the freight train company and the EPA had in place. The OSC believed that the ground-level air monitoring captured better data than ASPECT could and believed that the ground-based temperature gauges that the freight train company contractors used to monitor the temperature of the vinyl chloride-containing railcars were sufficient to inform the decision about a controlled burn.⁴ Around 10:30 p.m. EST, the OSC consulted with the ASPECT program branch chief. During that consultation, the OSC requested that the EPA deploy the ASPECT aircraft to monitor the controlled burn of the affected vinyl chloride-containing railcars the following day.

The ASPECT aircraft took off from Addison, Texas, on February 6 at 12:34 a.m. EST, and went to Pittsburgh, Pennsylvania. According to the EPA, the aircraft did not fly over the derailment on February 6 because of the pilots' safety concerns regarding low-hanging clouds and icing conditions. Consequently, the ASPECT aircraft did not monitor the controlled burn as planned. Favorable weather conditions allowed the ASPECT aircraft to conduct two flight missions on February 7, a day after the controlled burn. According to the EPA, data collected from the aircraft indicated a successful controlled burn of the railcars.

⁴ According to EPA personnel, ASPECT is most useful where the area of concern is inaccessible.

In addition to deploying the ASPECT aircraft, the EPA performed air monitoring from February 4 through November 3, 2023. The Agency also completed air sampling from February 4, 2023, through June 25, 2024. According to a November 2023 EPA operational update, no sustained chemicals of concern were found in the air after the evacuation order was lifted on February 8, 2023.

Air monitoring and air sampling

While air monitoring and air sampling may sound similar, they are two distinct ways to assess air quality. According to the <u>EPA</u>, "[a]ir monitoring uses electronic devices to provide real-time measurements of contaminants in the air. Air sampling involves trapping air over a period of time in a container that is then sent to a laboratory for analysis to identify and quantify specific compounds."

The EPA Followed Existing Practices for Deploying ASPECT

During its response to the train derailment, the EPA and its contractors followed existing practices for deploying the ASPECT aircraft. As discussed in the "Background" section, the OSCs monitor or direct responses to hazardous substance releases. The ASPECT aircraft is one of the assets that an OSC can use in such a response. The EPA does not immediately deploy ASPECT in response to all hazardous substance releases. Instead, the Agency deploys ASPECT at the request of an OSC.

During the Region 5 lead OSC's consultation with the ASPECT program branch chief at around 10:30 p.m. EST on February 5, 2023, the OSC requested ASPECT deployment in anticipation of the controlled burn of the affected vinyl chloride-containing railcars the following day. The branch chief, who can authorize ASPECT deployment but cannot activate the contractors, called one of the ASPECT program CORs on the evening of February 5 to activate the ASPECT contractors for deployment. The ASPECT program has multiple CORs with the authority to activate both the aircraft and data-processing contractors to deploy or provide remote support for a mission. After activating the contractors, a COR issues a mission order to both contractors. A mission order details the scope and nature of the deployment. The branch chief could not immediately reach the primary COR because the COR's phone was off and the COR was on approved leave from the afternoon of February 4, 2023, until the morning of February 6, 2023. Another CBRN CMAD after-hours watch officer was performing the COR's after-hours watch officer duties while the primary COR was on approved leave. The substitute, however, was not an ASPECT program COR and could not authorize ASPECT deployment. The ASPECT program branch chief then called the alternate ASPECT program COR. The alternate COR, who was on leave but whose phone was still on, notified the contractors to deploy ASPECT. On the COR's behalf, the branch chief issued a written mission order to the aircraft contractor at 12:06 a.m. EST on February 6. The ASPECT aircraft took off from Addison, Texas, at 12:34 a.m. EST, 28 minutes after the branch chief issued the mission order. This is consistent with the contractual agreement that the aircraft take off within 90 minutes of a mission order during nonbusiness hours. Further, given the planned time for the controlled burn, the aircraft departed with more than enough time to fulfill the mission order.

The hotline complainant alleged that the ASPECT aircraft did not follow normal Agency practice, and that there was a several-day delay in activating ASPECT after the derailment. However, as described above, the Agency deployed ASPECT at the request of the Region 5 lead OSC, per the existing Agency

practices, and the aircraft took off within the required time frame. As such, there is no evidence of a delay in deploying ASPECT.

The Existing Practices for Requesting ASPECT Deployment Lack Clarity and Internal Controls that Would Facilitate a Timely Response

Although there were no delays in deploying the ASPECT aircraft in response to the Region 5 lead OSC's request and although EPA staff indicated that there were no delays in prior deployments, the documented procedures remain largely unknown to all stakeholders involved with deploying the ASPECT aircraft. The deployment of the ASPECT adhered to existing practices that coincided with existing written procedures. However, the procedures for requesting ASPECT deployment lack clarity and internal controls to help ensure that a request from an OSC gets to an EPA staff person with the authority to deploy ASPECT. In a circumstance in which multiple CORs are on leave, it is important to have procedures clearly documented and known to all stakeholders involved with deploying the ASPECT aircraft. According to the U.S. Government Accountability Office, internal controls include plans, methods, policies, and procedures that help an entity operate efficiently and effectively. Specifically, policies and procedures should be "an integral part of the entity's operations." However, the EPA does not have a standalone ASPECT deployment guide. An OSC can either contact the ASPECT program COR directly or contact the Emergency Operations Center, which will then contact the ASPECT program COR. Additionally, the EPA does not have a central contact number for the on-duty COR or an automated system that would route calls to the on-duty COR or to an alternate point of contact if the COR does not answer the call. Without a formally documented procedure that is known to all involved stakeholders and without internal controls, there is a threat to the continuity of operations when a primary point of contact is unavailable.

The EPA On-Scene Coordinators May Be Unaware of All ASPECT Capabilities

The EPA OSCs may not know the full range of ASPECT's capabilities. For example, the Region 5 lead OSC believed that ASPECT was sensitive to a 20°C to 30°C temperature change, but according to the ASPECT technical support contractor, the infrared line scanner is sensitive to a 0.05°C temperature change. Because the Region 5 lead OSC was not aware that ASPECT could measure a 0.05°C temperature change in materials on the ground, the OSC believed that the ground-based temperature gauges that the freight train company contractors used to measure the temperature changes in the vinyl-chloride-containing railcars were more accurate than ASPECT. The EPA OSCs' limited awareness or use of the full range of ASPECT capabilities could negatively impact emergency response decision-making.

While the EPA's *Professional Development Guidelines for U.S. EPA On-Scene Coordinators* lists required and recommended training for OSCs, it does not list regular training on ASPECT and its capabilities. The EPA provides occasional training on ASPECT aircraft deployment and has an ASPECT fact sheet on its emergency response webpage. The fact sheet available during the East Palestine train derailment emergency response contained information about some of ASPECT's capabilities and included the Emergency Operations Center's phone number, but the fact sheet did not include a full list of ASPECT's capabilities, including ASPECT's temperature sensitivity. Two OEM managers informed us of CBRN CMAD's plans to conduct outreach to regional response personnel to introduce the new CBRN CMAD leaders and to highlight the division's capabilities, including ASPECT, during fiscal year 2025 through fiscal year 2027.

Conclusions

The emails and documents we reviewed and the interviews we conducted did not support the hotline complainant's allegations that the ASPECT aircraft did not follow normal Agency practice and that there was a several-day delay in activating ASPECT after the derailment. Although the EPA followed existing practices for deploying ASPECT and there were no delays, the documented procedures that were in place lack clarity and are unknown to all involved stakeholders—two issues that could have negatively affected emergency response decision-making. Developing a formal, written procedure, as well as a contact system, will help ensure the timely receipt of and response to ASPECT deployment requests. Further, educating the OSCs on ASPECT capabilities could better inform emergency response decision-making.

Recommendations

To ensure that OSCs can readily deploy ASPECT and are knowledgeable about its capabilities to effectively demonstrate program performance, we recommend that the assistant administrator for Land and Emergency Management:

- Develop a formal, written Airborne Spectral Photometric Environmental Collection Technology deployment procedure to include such items as a decision tree and to facilitate the timely request for and deployment of the Airborne Spectral Photometric Environmental Collection Technology aircraft. Doing so would help ensure the timely receipt of and response to Airborne Spectral Photometric Environmental Collection Technology deployment requests.
- Regularly train the EPA on-scene coordinators on the new formal, written procedure developed in response to Recommendation 1. Doing so would better inform emergency response decision-making and help ensure the timely receipt of and response to Airborne Spectral Photometric Environmental Collection Technology deployment requests.
- 3. Develop and implement a contact system, such as a central phone number or an automated routing system, to ensure the timely receipt of and response to Airborne Spectral Photometric Environmental Collection Technology deployment requests.
- 4. Update the Airborne Spectral Photometric Environmental Collection Technology fact sheet to list the full range of capabilities, including temperature sensitivity, and share the fact sheet with the EPA on-scene coordinators. Doing so would better inform emergency response decision-making so on-scene coordinators know the full extent of the aircraft's capabilities.

Agency Response and OIG Assessment

The Agency agreed with our recommendations and developed corrective actions that meet the intent of the recommendations. For Recommendation 1, in April 2025 the Agency finalized seven standard operating procedures for ASPECT operation as well as instructions for initiating an ASPECT deployment, guidance on where to find the availability status of the ASPECT CORs, and updated contact information for each COR. Additionally, by November 30, 2025, the Agency plans to develop an asset deployment guide to inform a formal deployment process that includes a decision tree. Recommendation 1 is resolved with corrective actions pending.

For Recommendation 2, by April 30, 2026, the Agency will host and record training sessions for OSCs and incorporate information from the finalized asset deployment guide into its Regional Response Team liaison presentations that are conducted on an annual basis. Recommendation 2 is resolved with corrective actions pending.

For Recommendation 3, the Agency deployed a single dedicated phone line and centralized email inbox to directly contact the on-duty phone duty officer in August 2024. The Agency listed the phone line and email on websites, in the CBRN CMAD and ASPECT fact sheets, and in presentations. The Agency also developed a division-wide calendar to track personnel who are out of the office or on travel. Recommendation 3 is resolved with corrective actions completed.

For Recommendation 4, the Agency finalized an updated ASPECT fact sheet in February 2025, posted it on CBRN CMAD's website, and shared it with removal managers for dissemination to the OSCs. ASPECT capabilities will be incorporated in the Regional Response Team liaison presentations. By October 1, 2025, the Agency will provide the full range of ASPECT capabilities on its public-facing website to ensure that the capabilities not listed in the fact sheet are easily accessible to the OSCs and the public. Recommendation 4 is resolved with corrective actions pending.

The Agency's response to the draft report is in Appendix A. The Agency also provided technical comments, which we reviewed and incorporated into our report as appropriate.

Status of Recommendations

Rec. No.	Page No.	Recommendation	Status*	Action Official	Planned Completion Date
1	9	Develop a formal, written Airborne Spectral Photometric Environmental Collection Technology deployment procedure to include such items as a decision tree and to facilitate the timely request for and deployment of the Airborne Spectral Photometric Environmental Collection Technology aircraft. Doing so would help ensure the timely receipt of and response to Airborne Spectral Photometric Environmental Collection Technology deployment requests.	R	Assistant Administrator for Land and Emergency Management	11/30/25
2	9	Regularly train the EPA on-scene coordinators on the new formal, written procedure developed in response to Recommendation 1. Doing so would better inform emergency response decision-making and help ensure the timely receipt of and response to Airborne Spectral Photometric Environmental Collection Technology deployment requests.	R	Assistant Administrator for Land and Emergency Management	4/30/26
3	9	Develop and implement a contact system, such as a central phone number or an automated routing system, to ensure the timely receipt of and response to Airborne Spectral Photometric Environmental Collection Technology deployment requests.	С	Assistant Administrator for Land and Emergency Management	4/10/25
4	9	Update the Airborne Spectral Photometric Environmental Collection Technology fact sheet to list the full range of capabilities, including temperature sensitivity, and share the fact sheet with the EPA on-scene coordinators. Doing so would better inform emergency response decision-making so on-scene coordinators know the full extent of the aircraft's capabilities.	R	Assistant Administrator for Land and Emergency Management	10/1/25

* C = Corrective action completed.
 R = Recommendation resolved with corrective action pending.
 U = Recommendation unresolved with resolution efforts in progress

Appendix A

Agency Response to the Draft Report



OFFICE OF LAND AND EMERGENCY MANAGEMENT

WASHINGTON, D.C. 20460

MEMORANDUM

SUBJECT:	Response to Office of Inspector General Draft Report: Evaluation of EPA Policies, Procedures, and Processes for ASPECT Flight Missions, Project No. OSRE-FY24-0103		
FROM:	Barry N. Breen Principal Deputy Assistant Administrator	BARRY BREEN	Digitally signed by BARRY BREEN Date: 2025.04.10 16:35:25 -04'00'
TO:	Nicole N. Murley, Acting Inspector Genera Office of Inspector General	al	

Thank you for the opportunity to respond to the review of the Office of Land and Emergency Management (OLEM), Office of Emergency Management (OEM) Airborne Spectral Photometric Environmental Collection Technology (ASPECT) program's response during the East Palestine Train Derailment. The following is a summary of OLEM's position on each of the report recommendations.

AGENCY'S OVERALL POSITION

OLEM agrees with the draft report recommendations and has provided corrective actions for the program and estimated completion dates. For your consideration, OLEM has also included technical comments to supplement this response.

OEM has initiated efforts to address the OIG recommendations as detailed in the table below.

AGENCY'S RESPONSE TO REPORT RECOMMENDATIONS

Agreements

No.	o. Recommendation Corrective Action		Estimated
			Completion Date
1 Develop a formal, written ASPECT deployment procedure, such as		 1.1 OEM is drafting an Asset Deployment Guide to inform a formal deployment process including a decision tree; the 24/7/365 Chemical, Biological, Radiological, 	November 30, 2025
	a decision tree, to facilitate the timely request for and deployment of the ASPECT aircraft.	and Nuclear (CBRN) Consequence Management Advisory Division (CMAD) Phone Duty Officer (PDO) phone number and email; and information about requesting and deploying OEM assets, including ASPECT.	
		1.2 April 2025 updates to the CBRN CMAD PDO Procedures included instructions for initiating an ASPECT deployment, guidance on where to find the availability status of the ASPECT Contracting Officer Representative (CORs), and updated contact information for each COR. The PDO Procedures will also be updated annually at a minimum to ensure current contact information for the PDOs, the ASPECT CORs, and the CBRN CMAD Managers on Duty.	Complete
		1.3 Seven technical draft Standard Operating Procedures (SOPs) related to the operation of ASPECT were updated, reviewed, finalized, and signed in April of 2025.	Complete
2	Regularly train the On-Scene Coordinators (OSCs) on the new formal, written procedure developed in response to	2.1 CBRN CMAD will host and record training sessions for the OSCs once the Asset Deployment Guide is finalized. Recorded sessions will be shared in an easily accessible location and communicated with new OSCs as they join EPA. New sessions will be hosted if the request and deployment process changes.	April 30, 2026
	Recommendation 1.	2.2 CBRN CMAD initiated a Regional Response Team (RRT) liaison program in 2024 to increase awareness of CBRN CMAD capabilities and assets, and will incorporate information about the Asset Deployment Guide, once finalized, within the	April 30, 2026

		presentations the RRT liaisons present to	
		their assigned RRTs on an annual basis.	
3	Develop and implement a contact system to ensure the timely receipt of and response to ASPECT	3.1 Although CBRN CMAD has maintained a rotation of PDOs on call 24/7/365 since at least 2015, in August 2024 the Division deployed a single dedicated phone line and centralized email inbox to directly contact the on-duty PDO.	Complete
	deployment requests.	3.2 The dedicated CBRN CMAD PDO phone number is on CBRN CMAD's website (https://www.epa.gov/emergency- response/cbrn-consequence-management- advisory-team), the ASPECT website (https://www.epa.gov/emergency- response/aspect), the CBRN CMAD and ASPECT factsheets published February 2025, and every CBRN CMAD presentation (including the RRT presentations mentioned in corrective action 2.2 above. The contact information was also shared with the Regional Removal Managers (RMs) for dissemination to the OSCs during a presentation on 8/21/24.	Complete
		3.3 CBRN CMAD has a Division-wide calendar, which tracks personnel who are out of the office or on travel. This assists in ensuring that at least one ASPECT COR is always available and that the CMAT PDO has access to that information.	Complete
4	Update the ASPECT fact sheet to list the full range of capabilities, including temperature sensitivity, and share the fact sheet with the OSCs.	4.1 An updated ASPECT fact sheet was finalized in February 2025, posted on CBRN CMAD's website <u>here</u> , and shared with the RMs in a presentation on 2/19/25. Information about ASPECT's capabilities will be incorporated into the RRT presentations (see 2.2) to maintain awareness among EPA OSCs and partner agencies of ASPECT's capabilities.	Complete
		4.2 CBRN CMAD will provide the full range of ASPECT capabilities on the public-facing website to ensure the capabilities not listed	October 1, 2025

	in the 1-page fact sheet are easily accessible to OSCs and the public.	

If you have any questions regarding this response, please contact Kecia Thornton, OLEM's Audit Follow-up Coordinator at (202) 566-1913.

Attachments

- 1. ASPECT Technical Comments
- 2. ASPECT Factsheet, February 2025
- cc: Steven Cook Lynda Kasonde Shanna Ratnesar-Shumate Meaghan Bresnahan

Appendix B

Distribution

The Administrator

- Deputy Administrator
- Associate Deputy Administrator
- Assistant Deputy Administrator
- Chief of Staff, Office of the Administrator
- Deputy Chief of Staff for Management, Office of the Administrator
- Agency Follow-Up Official (the CFO)
- Assistant Administrator for Land and Emergency Management
- Principal Deputy Assistant Administrator for Land and Emergency Management
- Agency Follow-Up Coordinator
- General Counsel
- Associate Administrator for Congressional and Intergovernmental Relations
- Associate Administrator for Public Affairs
- Principal Deputy Associate Administrator for Public Affairs
- Deputy Assistant Administrator for Land and Emergency Management
- Director, Office of Continuous Improvement, Office of the Chief Financial Officer
- Director, Office of Emergency Management, Office of Land and Emergency Management
- OIG Liaison, Office of Policy, Office of the Administrator
- GAO Liaison, Office of Policy, Office of the Administrator
- Audit Follow-Up Coordinator, Office of the Administrator
- Audit Follow-Up Coordinator, Office of Land and Emergency Management



Whistleblower Protection

U.S. Environmental Protection Agency The whistleblower protection coordinator's role is to educate Agency employees about prohibitions against retaliation for protected disclosures and the rights and remedies against retaliation. For more information, please visit the OIG's whistleblower protection <u>webpage</u>.

Contact us:



Congressional & Media Inquiries: OIG.PublicAffairs@epa.gov



EPA OIG Hotline: <u>OIG.Hotline@epa.gov</u>



Web: epaoig.gov

Follow us:



X: <u>@epaoig</u>

LinkedIn: linkedin.com/company/epa-oig



YouTube: youtube.com/epaoig



Instagram: <a>@epa.ig.on.ig



www.epaoig.gov