

CBP Needs to Improve Its Video and Audio Coverage at Land Ports of Entry





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Department of Homeland Security

Washington, DC 20528 / www.oig.dhs.gov

September 25, 2023

MEMORANDUM FOR: Troy A. Miller
Senior Official Performing the Duties of the
Commissioner
U.S. Customs and Border Protection

FROM: Joseph V. Cuffari, Ph.D. **JOSEPH V** Digitally signed by
Inspector General **CUFFARI** JOSEPH V CUFFARI
Date: 2023.09.21
14:23:10 -04'00'

SUBJECT: *CBP Needs to Improve Its Video and Audio Coverage at
Land Ports of Entry*

Attached for your action is our final report, *CBP Needs to Improve Its Video and Audio Coverage at Land Ports of Entry*. We incorporated the formal comments provided by your office.

The report contains seven recommendations aimed at improving the overall effectiveness of U.S. Customs and Border Protection's (CBP) Centralized Area Video Surveillance System at land ports of entry. Your office concurred with all seven recommendations. Based on information provided in your response to the draft report, we consider recommendations 1 through 7 open and resolved. Once your office has fully implemented the recommendations, please submit a formal closeout letter to us within 30 days so that we may close the recommendations. The memorandum should be accompanied by evidence of completion of agreed-upon corrective actions and of the disposition of any monetary amounts.

Please send your response or closure request to
OIGAuditsFollowup@oig.dhs.gov.

Consistent with our responsibility under the *Inspector General Act*, we will provide copies of our report to congressional committees with oversight and appropriation responsibility over the Department of Homeland Security. We will post the report on our website for public dissemination.

Please contact me with any questions, or your staff may contact Kristen Bernard, Acting Deputy Inspector General for Audits, at (202) 981-6000.

Attachment



DHS OIG HIGHLIGHTS

CBP Needs to Improve Its Video and Audio Coverage at Land Ports of Entry

September 25, 2023

Why We Did This Audit

Federal and CBP standards require video surveillance systems that provide camera coverage and recording at LPOEs for physical security and to monitor operations and integrity. We conducted this audit to determine the extent to which CBP is using closed-circuit television video cameras and microphones at LPOEs to ensure the safety of the public, employees, and property.

What We Recommend

We made seven recommendations aimed at improving OFO's CAVSS.

For Further Information:

Contact our Office of Public Affairs at (202) 981-6000, or email us at DHS-OIG.OfficePublicAffairs@oig.dhs.gov.

What We Found

U.S. Customs and Border Protection's (CBP) Office of Field Operations (OFO) uses the Centralized Area Video Surveillance System (CAVSS) at land ports of entry (LPOEs) to increase the safety of the public, employees, and property, but improvements are needed to address video surveillance system issues. Specifically, CAVSS experienced widespread recording gaps, instances of poor-quality video and audio, areas of inadequate video and audio coverage within LPOEs, and inadequate privacy protections for detainees being held at LPOEs.

These deficiencies were attributed to several factors. Recording gaps were a widespread issue primarily caused by equipment not always rebooting after the Office of Information and Technology applied required network security patches and scans. Video and audio quality was reduced by outdated equipment in need of repair or replacement, limited network bandwidth and emergency back-up power, and an unreliable electrical grid. We also found instances in which video and audio coverage at certain locations did not meet requirements due to a lack of coordination when repurposing LPOE rooms and conducting facility projects, funding and infrastructure constraints, and inadequate CAVSS operator training. Further, LPOEs did not always have the required blurred video or physical structures to protect detainees' privacy when using lavatory facilities.

If these issues are not addressed, CAVSS' capabilities will continue to degrade, hindering OFO's ability to increase the safety of the public, employees, and property.

CBP Response

CBP concurred with all seven recommendations. Appendix B contains CBP's management response in its entirety.



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Abbreviations

BSDP	Border Security Deployment Program
CASC	Centralized Area Surveillance Center
CAVSS	Centralized Area Video Surveillance System
CBP	U.S. Customs and Border Protection
FPS	Federal Protective Service
FSA	facility security assessment
IP	internet protocol
ISC	Interagency Security Committee
LPOE	land port of entry
OFO	Office of Field Operations
OPR	Office of Professional Responsibility
PMO	Program Management Office
SMD	Security Management Division



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Background

The mission of U.S. Customs and Border Protection (CBP) includes protecting the American people, safeguarding our borders, and enhancing the Nation’s economic prosperity. CBP’s Office of Field Operations (OFO) is responsible for carrying out this mission at 167 land ports of entry (LPOEs). To support this mission, CBP deploys video surveillance cameras and microphones at every LPOE. These cameras and microphones feed into the Centralized Area Video Surveillance System (CAVSS) at each LPOE¹ and are viewable at 13 Centralized Area Surveillance Centers (CASC) located throughout the United States and at workstations at LPOEs and field offices. CBP OFO staff continually monitor live and recorded video and audio for operations, integrity, and physical security, including:

- deterrence and detection of security incidents;
- interactions between officers and the traveling public specific to inspection processes and officer integrity; and
- assistance with law enforcement investigations.

CBP standards² require video and audio coverage in specific areas of an LPOE (see Table 1).

Table 1. Examples of LPOE Areas Requiring Video and/or Audio Coverage

Operational and Integrity Areas	Physical Security Areas
Pre-Primary and Primary Inspections for Passenger and Commercial Vehicles	Facility Perimeter
Pre-Primary and Primary Pedestrian Processing	Weapons Storage
Commercial and Import Docks	Seized Property Processing and Storage
Secondary Inspection Areas <ul style="list-style-type: none"> • Pat Downs and Fingerprinting • Passenger and Commercial Vehicle Inspections 	Duress Alarm Stations
Traveler Admissibility and Administrative Processing	Homeland Secure Data Network Rooms
Detainee Hold Rooms Interview Rooms	Sensitive Compartmented Information Facility Local Area Network Rooms
Passenger and Commercial Port Exit	Secure Rooms
Pedestrian Port Exit	Parking Lots

Source: Department of Homeland Security Office of Inspector General analysis of CBP standards

¹ CAVSS components include a video management system, internet protocol (IP) cameras, analog cameras, network video recorders, encoders, and monitoring stations.

² *Land Port of Entry Design Standard*, December 2018, and *Physical Security Policies and Procedures Handbook*, April 2020.



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CBP OFO's Border Security Deployment Program (BSDP), Program Management Office (PMO), oversees CAVSS at LPOEs and is responsible for ensuring it meets physical security and operational and integrity requirements. CBP's LPOE design standards³ define CAVSS requirements as including recording capabilities; image and sound quality; number and location of cameras and microphones; and infrastructure requirements, such as emergency back-up power and bandwidth.⁴

In 2001, BSDP PMO began deploying CAVSS using analog⁵ cameras at all LPOEs. BSDP PMO became an official program of record⁶ in 2015, and around 2017, BSDP PMO began installing IP⁷ cameras and microphones at LPOEs. BSDP PMO has an annual budget of \$11.1 million, which is primarily used to fund a support contract (\$10 million per year) to refresh technology, upgrade equipment, and maintain CAVSS.

Additionally, the following CBP offices support BSDP PMO:

- Office of Information and Technology is responsible for operations and maintenance, system security, and network infrastructure, including circuits,⁸ switches,⁹ and bandwidth.
- Office of Facilities and Asset Management, in coordination with CBP program offices, is responsible for generators, electrical power, oversight of construction projects related to CAVSS, and developing and maintaining LPOE facility design standards.
- Office of Professional Responsibility (OPR), Security Management Division (SMD), is responsible for physical security video surveillance requirements.

In February 2021, we reported¹⁰ that U.S. Border Patrol's remote video surveillance cameras at several Southwest Border Patrol sectors were 15 to 20 years old and frequently malfunctioned or needed repair. For example, during a site visit to a Border Patrol sector in California, we observed a camera that could not feed video to a command center because it had been out of service for approximately 3 months while awaiting repair. We also reported that because

³ *Land Port of Entry Design Standard*, December 2018.

⁴ Bandwidth refers to the capacity at which a network can transmit data.

⁵ Analog cameras capture and transmit images to an encoder that changes the video to a digital signal and stores it on a network video recorder.

⁶ As an official program of record, BSDP PMO receives a steady budget for enhancements and continued operations and maintenance.

⁷ IP cameras transmit images digitally by receiving and sending data over the CBP network.

⁸ Network circuits provide a path for interconnecting CAVSS equipment.

⁹ Network switches connect devices within CAVSS.

¹⁰ *CBP Has Improved Southwest Border Technology, but Significant Challenges Remain*, OIG-21-21, February 23, 2021.



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nearly all Border Patrol's surveillance technology applications were developed separately, none could interact or share information. As a result, Border Patrol command centers were operating different models of cameras for each platform. Many Border Patrol sectors also experienced limited bandwidth and slow network speeds, which degraded Border Patrol agents' ability to access and process information. Officials from one sector said that every station in their area had limited bandwidth, which routinely reduced technology output, such as tower-based surveillance cameras.

In January 2023, we issued a management alert to advise CBP of a security and safety issue at the Blaine, Washington, area LPOEs.¹¹ During a site visit from September 27 through September 29, 2022, we identified and were informed that the Pacific Highway and Peace Arch LPOEs did not have adequate emergency back-up power for operating the Blaine Command Center's CAVSS equipment and video surveillance camera equipment during power outages. We recommended that CBP take immediate action to bring the ports into compliance with policy and ensure secure and safe operations during power outages. CBP concurred with our recommendations and estimated all corrective actions would be completed by September 29, 2023.

We conducted this audit to determine the extent to which CBP is using closed-circuit television video cameras and microphones at LPOEs to ensure the safety of the public, employees, and property.

Results of Audit

CBP OFO uses CAVSS at LPOEs to increase the safety of the public, employees, and property, but improvements are needed to address video surveillance system issues. Specifically, CAVSS experienced widespread recording gaps, instances of poor-quality video and audio, areas of inadequate video and audio coverage within LPOEs, and inadequate privacy protections for detainees being held at LPOEs. These deficiencies were attributed to several factors. Recording gaps were a widespread issue primarily caused by equipment not always rebooting after the Office of Information and Technology applied required network security patches and scans. Video and audio quality was reduced by outdated equipment in need of repair or replacement, limited network bandwidth and emergency back-up power, and an unreliable electrical grid. We also found instances in which video and audio coverage at certain locations did not meet requirements due to a lack of coordination when repurposing LPOE rooms and conducting facility projects, funding and infrastructure constraints, and inadequate CAVSS operator training. Further, LPOEs did not always have the required blurred video or physical structures to protect

¹¹ Management Alert – *CBP Needs to Provide Adequate Emergency Surveillance Systems at the Blaine Area Ports to Ensure Secure and Safe Operations*, OIG-23-06, dated January 4, 2023.



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detainees' privacy when using lavatory facilities. If these issues are not addressed, CAVSS' capabilities will continue to degrade, hindering OFO's ability to ensure the safety of the public, employees, and property.

CBP OFO Uses the Centralized Area Video Surveillance System to Increase Safety at LPOEs

Interagency Security Committee (ISC)¹² physical security standards¹³ and CBP standards¹⁴ require video surveillance systems that provide camera coverage and recordings at LPOEs. In compliance with these standards, OFO uses CAVSS at LPOEs as a mission-critical tool intended to increase the safety of the public, employees, and property. To help ensure a secure operational environment, BSDP PMO has implemented a standardized version of CAVSS at all LPOEs. BSDP PMO has a maintenance contract with the Office of Information and Technology to support operations and perform preventative maintenance at all LPOEs. Additionally, BSDP PMO assists with technology refreshments and enhancements, helping keep CAVSS equipment up to date and operating as intended.

According to BSDP PMO's program charter,¹⁵ CAVSS provides a comprehensive and continuous surveillance system at LPOEs. It contributes to more efficient and effective use of CBP resources and personnel, improves operational control and situation awareness, enhances personnel safety and security, and reinforces personnel integrity.

¹² DHS chairs the ISC, which comprises 64 Federal departments and agencies. The ISC's mission is to develop security policies, standards, and recommendations for nonmilitary Federal facilities in the United States.

¹³ *The Risk Management Process for Federal Facilities: An Interagency Security Committee Standard* (Risk Management Process Standard) defines the criteria and processes that those responsible for a facility's security should use to determine the facility security level and provides an integrated, single source of physical security countermeasures for all Federal facilities. *Appendix B: Countermeasures*, helps Federal agencies determine how to mitigate risks to Federal facilities nationwide.

¹⁴ *Land Port of Entry Design Standard*, December 2018, and *Physical Security Policies and Procedures Handbook*, April 2020.

¹⁵ *Deployment of U.S. Customs and Border Protection Centralized Audio and Video Surveillance Systems at Land Ports of Entry*, August 22, 2016.



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BSDP PMO Has Enhanced Its Centralized Area Video Surveillance System Since Inception

BSDP PMO has continued to enhance CAVSS to reflect LPOE facility changes, meet evolving CAVSS technology and requirements, and address CAVSS deficiencies through operational and facility physical security assessments (see Appendix C). For example:

- In fiscal year 2023, BSDP PMO purchased, delivered, and connected CAVSS equipment at an LPOE to support four new Free and Secure Trade lanes installed to reduce long wait times.
- Since 2021, BSDP PMO has completed 49 improvement projects, including:
 - technical refreshes at LPOEs to replace existing analog cameras and encoders with new IP cameras and install additional IP cameras to enhance awareness; and
 - other infrastructure and equipment enhancements such as replacing cameras that have security vulnerabilities.
- In FY 2021, BSDP PMO installed four new fixed IP cameras at an LPOE after OPR SMD identified in a Physical Security Vulnerability Assessment that there was no camera coverage of a seizure lot.

In addition, BSDP PMO identified future CAVSS projects needed to maintain CAVSS and meet established requirements. However, according to BSDP PMO, these projects are currently unfunded (see Appendix D).

BSDP PMO and OPR SMD Coordinate Regarding CAVSS

According to ISC physical security standards, the design of a video surveillance system will vary depending on the objective of the surveillance, environment, facility type, and end-user requirements. The standards also emphasize coordinating the design and installation to maximize operational effectiveness.

BSDP PMO and OPR SMD coordinate on various efforts for OFO's use of CAVSS. OPR SMD supports the program by conducting physical security assessments at LPOEs to identify security vulnerabilities and recommend CAVSS improvements.



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OPR SMD also monitors CAVSS equipment outages of more than 120 hours.¹⁶ Further, BSDP PMO and OPR SMD coordinate with Office of Facilities and Asset Management to develop LPOE design standards related to physical security and CAVSS requirements.

Although BSDP PMO's implementation of CAVSS, in coordination with other CBP offices, helps ensure the safety and security of the public, employees, and property, improvements are needed.

CAVSS Experienced Widespread Recording Gaps

ISC standards require LPOEs to record CAVSS views. Additionally, CBP's LPOE design standards require video and audio from an LPOE's CAVSS to continually record to a network video recorder without interruption for at least 90 days. After 90 days, the video on the recorder is overwritten. The LPOE must archive this video to store evidence for:

- law enforcement investigations and criminal proceedings;
- operational integrity incidents, such as officer interaction with the public related to traveler complaints or internal corruption;
- recreating seizures and activities leading to seizures, such as threatening or suspicious behavior, possible accomplices, and intended distractions; and
- reviewing safety and security incidents.

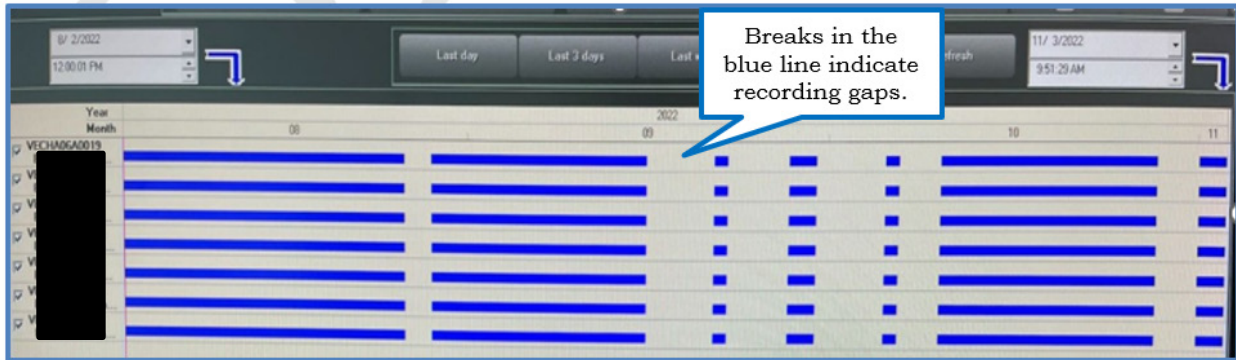
We observed CAVSS video recording gaps at all 10 LPOEs we visited, with some gaps ranging from multiple days to a few months. While onsite, we confirmed the video could not be played back during the time of these recording gaps. At one LPOE, we observed seven cameras only recording intermittently for 15 days over 3 months, as shown in Figure 1. In this instance, personnel assigned to the LPOE could not tell us why the cameras were not recording video. Additionally, LPOE personnel reported this recording issue to the BSDP PMO help desk contractors responsible for maintaining and troubleshooting issues with CAVSS; the contractors did not provide the cause but confirmed no video recordings were available.

¹⁶ The *Consolidated Appropriations Act of 2020* required video monitoring by CBP and mandated: "Any failure of closed-circuit television and associated storage equipment in excess of 120 hours at any CBP facility that detains migrants must be reported to the Office of Professional Responsibility. Such reporting shall be updated weekly." See Appendix E for more information.



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Figure 1. Video Recording Software Illustrating Intermittent Recording Gaps from August 2 through November 3, 2022

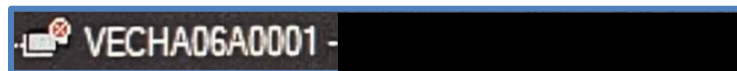


Source: DHS OIG photo of CAVSS Blue Line Report

In addition, field personnel at 33 of 49 LPOEs that responded to our questionnaire¹⁷ provided video recording reports showing recording gaps ranging from less than a day to approximately 4.5 months. Seven of the 33 LPOEs had at least one gap of more than 30 days.

Further, CAVSS operators and LPOE personnel were not always aware cameras had stopped recording. This is because the only way to know a camera is not recording is by manually checking the system for a red “X” on the device icon, which indicates it is not recording, as shown in Figure 2.

Figure 2. Video Recording Software with Red “X” Indicator on Video Camera Icon Showing Camera Offline and Not Recording



Source: DHS OIG photo of CAVSS software

¹⁷ See Appendix A for additional information on our questionnaire.



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Nearly half of LPOE personnel (21 of 49) who responded to our questionnaire were not aware of a problem with CAVSS until they looked at camera footage. Staff at one LPOE stated that they did not discover a camera was offline until they captured information for our questionnaire. Additionally, an Assistant Port Director for one region responded that to verify all devices in that region are recording video and audio, CASC operators must manually review more than 1,000 cameras and microphones to determine their status. The Assistant Port Director stated that manually accessing the devices is “impractical and excessively inefficient,” and that operators at this CASC collectively spend 8 hours a day verifying that devices are recording.

This audit brings to light a significant shortcoming in video coverage. It identifies that, as a whole, the CASC/[BSDP] system [in our region] experiences an extremely high number of recording lapses. It also demonstrates the inefficiency in identifying and resolving recording lapses.

-LPOE response to DHS OIG questionnaire

Recording gaps were a widespread issue primarily caused by equipment not always rebooting after the Office of Information and Technology applied required network patches and conducted required scans.¹⁸ Additionally, BSDP PMO did not assess the impact of the patches and scans on live video feeds and recording capabilities. Finally, outdated equipment makes it harder to apply patches and conduct scans because the current video management system has surpassed its life cycle.

Some Video Footage and Audio Feeds Were Poor Quality

ISC standards and CBP’s physical security standards¹⁹ require video systems to provide a clear image for their intended purpose. Additionally, CBP’s LPOE design standards require that CAVSS meet minimum resolution requirements and maximize visual clarity, delivering a clear image. Generally, CAVSS should allow users to recognize a person; monitor or track a person, object, or vehicle; and capture enough detail to identify a person, object, or vehicle beyond a reasonable doubt. CBP’s LPOE design standards also require CAVSS to maximize audio clarity and minimize ambient noise to ensure recordings capture officer and traveler interactions within the LPOE. We observed CAVSS not meeting image and audio quality requirements.

¹⁸ Network patches and scans are intended to make improvements and address vulnerabilities to keep the CBP network secure.

¹⁹ *Physical Security Policies and Procedures Handbook*, April 2020.



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CAVSS Video Footage Had Poor Image Quality

We observed 101 instances of poor image quality for CAVSS footage at 18 LPOEs. Overall, the IP cameras produced much clearer images than analog cameras, as shown in Figure 3.

Figure 3. Comparison of the Image Quality for an Older Analog Camera vs. a Newer Digital Camera at Two LPOEs



Older Analog Camera



Newer IP Camera

Source: CBP CAVSS footage

Most image quality issues were associated with analog cameras, which use older technology. Figure 4 shows examples of poor image quality from analog cameras in areas where vehicles are taken apart to extract drugs or other contraband, travelers are escorted by CBP officers for pat downs, and secondary commercial inspections are conducted.

Figure 4. Examples of Poor Image Quality for Analog Cameras at Three LPOEs



Seizure Processing Area



Admin Inspection Area



Export Cargo Area

Source: CBP CAVSS footage

We also observed some instances of poor image quality from IP cameras resulting from needed maintenance, including the cleaning of camera lenses. Figure 5 shows examples of poor image quality for an area where passenger

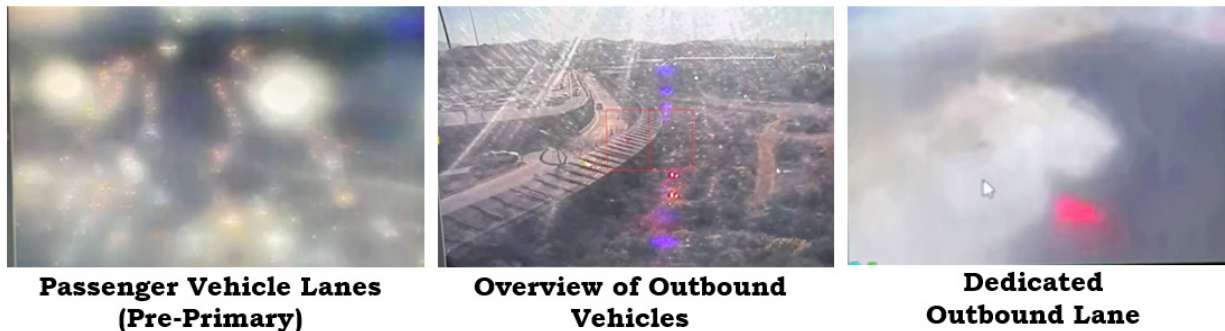


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vehicles line up to approach the LPOE primary inspection area, as well as areas that vehicles travel to exit the United States.

Figure 5. Examples of Poor Image Quality for IP Cameras at Two LPOEs



Source: CBP CAVSS footage

Additionally, 20 LPOEs provided specific responses to our questionnaire about image quality issues; 15 of the 20 respondents mentioned blurriness or poor resolution. One respondent stated that the image quality is so poor that it is “impossible to make out faces, [license] plates, makes and models, and sometimes the colors of vehicles.” Other respondents mentioned dirty camera lenses and outdated or inconsistent image quality.

As of May 2023, LPOEs had approximately 12,274 video surveillance cameras of which 57 percent (7,007) were analog cameras and 43 percent (5,267) were IP cameras. ISC and CBP physical security standards note that analog cameras should be replaced with IP cameras when possible. Further, BSDP PMO considers analog cameras to be outdated technology and officials said they will replace all analog cameras with IP cameras as funding and network infrastructure are available. Network infrastructure that supports CAVSS equipment is inadequate at some LPOEs, contributing to poor image quality.

Although BSDP PMO currently requires preventative maintenance at each LPOE twice per year, we observed some cameras that had not received such maintenance. In some cases of cameras with poor image quality, a help desk ticket had been submitted for the camera to be cleaned or replaced. BSDP PMO officials said they had explored providing additional preventative maintenance but found it to be cost prohibitive. As an alternative, BSDP PMO pursued a health dashboard for more proactive monitoring, but due to the age of the existing video management system, determined it would be too costly.



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CAVSS Had Audio Quality Issues

We observed nine instances of audio quality issues at five LPOEs. For example, some LPOEs had poor audio quality in hold rooms while other LPOEs had audio issues in primary inspection lanes. In all instances, the audio quality was not sufficient to distinguish the conversation between the officer and traveler or detainee.

Additionally, 15 LPOEs gave specific responses to our questionnaire about audio quality issues; 11 of those 15 respondents mentioned unclear/poor audio quality issues such as inaudible voices and microphone feeds not being available in the system. An additional 2 of those 15 respondents mentioned inconsistent audio. The audio quality issues were primarily equipment-related, that is, the microphones needed to be repaired or replaced.

LPOEs Experienced Inadequate Video and Audio Coverage

ISC's Risk Management Process Standard and CBP's standards²⁰ require video surveillance coverage at LPOEs. CBP LPOE design standards specify camera placement and field of view, as well as microphone placement, based on the area of the LPOE. However, LPOEs did not always have adequate video and audio coverage.

CAVSS Provided Inadequate Video Coverage

We observed 239 instances of video coverage issues at 18 LPOEs, as shown in Figure 6.

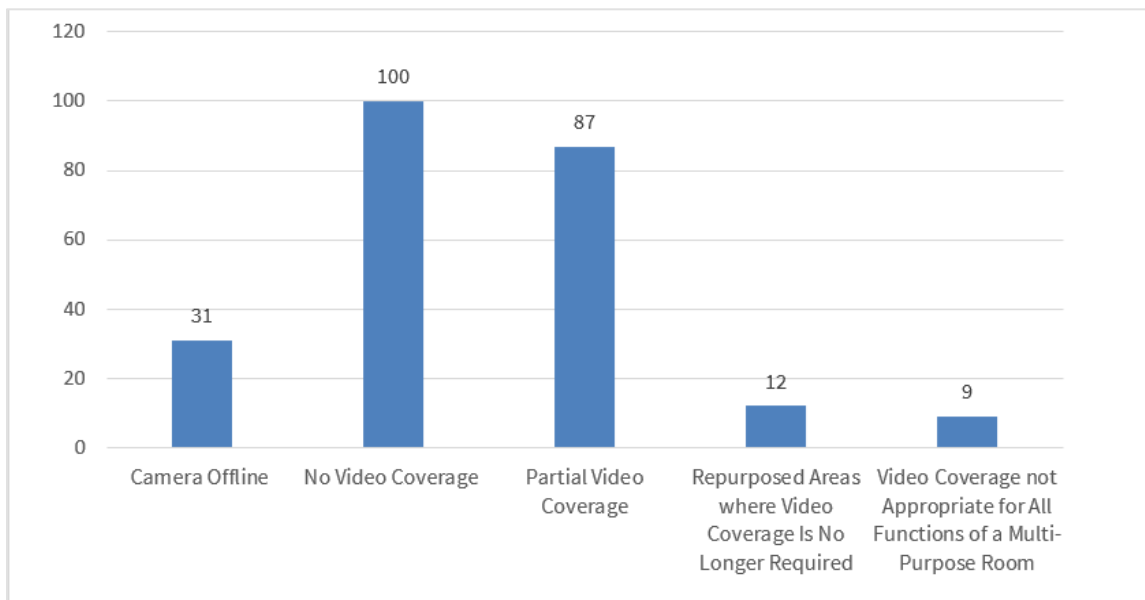
²⁰ *Land Port of Entry Design Standard*, December 2018; and *Physical Security Policies and Procedures Handbook*, April 2020.



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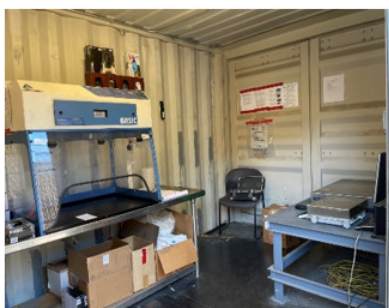
Figure 6. Video Coverage Issues Observed at 18 LPOEs



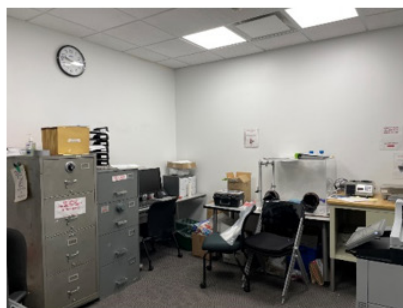
Source: DHS OIG analysis based on observations at LPOEs

Figure 7 shows three LPOE areas without required video coverage where seized drugs are processed and weighed, seized property and contraband are temporarily stored, and weapons are stored.

Figure 7. Three Examples of LPOE Areas With No Video Coverage



Seizure Processing Area



Temporary Storage and Seizure Processing Area



Armory

Source: DHS OIG photos



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Respondents to our questionnaire reported 56 instances of inadequate video coverage in required areas.²¹ Furthermore, personnel at 14 LPOEs indicated coverage issues such as blind spots, obstructions, and poor camera angles.

Examples of Inadequate Video Coverage Due to Facility Changes

While onsite, we observed inadequate video coverage due to facility changes within LPOEs. Specifically, we observed repurposed areas without camera coverage or where the cameras did not meet their intended purpose. In these instances, LPOE personnel did not report the repurposing of areas to BSDP PMO.

Examples of areas without camera coverage:

- A supervisor's office at one LPOE was repurposed to process and handle seized drugs.
- A closet and a hold room in the pedestrian area at one LPOE were repurposed as two pat down rooms.

Examples of cameras not meeting their intended purpose:

- Eight cameras at one LPOE provided coverage for an operational area that was converted to space used by employees for law enforcement training and fitness.
- A camera at one LPOE provided coverage for an interview room that was converted to employee workstations without traveler interaction.

Cameras Were Not Authorized or Visible from a CASC

BSDP PMO requires all CAVSS equipment to comply with the approved device list and be accessible for viewing at the CASC. We observed an LPOE with approximately 18 video cameras that were not on the approved device list and did not feed into the CASC. This occurred because the Office of Facilities and Asset Management did not coordinate with BSDP PMO before purchasing and installing the equipment at the LPOE. According to LPOE personnel, these cameras were intended to address gaps in video coverage for the secondary vehicle inspection process (see Figure 8) and capture outbound operations and were purchased and installed for about \$140,000.

²¹ LPOE areas without adequate coverage included: detainee hold rooms, interview rooms, weapons storage rooms, seized property processing and storage areas, duress alarm stations, local area network rooms, secure rooms, and homeland secure data network rooms or sensitive compartmented information facilities.



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Figure 8. Example of an Image from Cameras Covering Secondary Vehicle Inspections at One LPOE



Source: CBP video footage from network video recorder at the LPOE

Personnel at one LPOE justified the use of video equipment not connected to CAVSS by referring to the limitations of OFO's current video management system and equipment. Specifically, personnel stated that the current system and equipment have a very limited field of view, often produce poor image quality, and have limited capabilities to accurately capture images of vehicles and plates in outbound lanes at all LPOEs within their field office. According to LPOE personnel, when encountering port runners or confused motorists, they were often unable to obtain details needed to identify the vehicle, such as license plate or even the make/model.

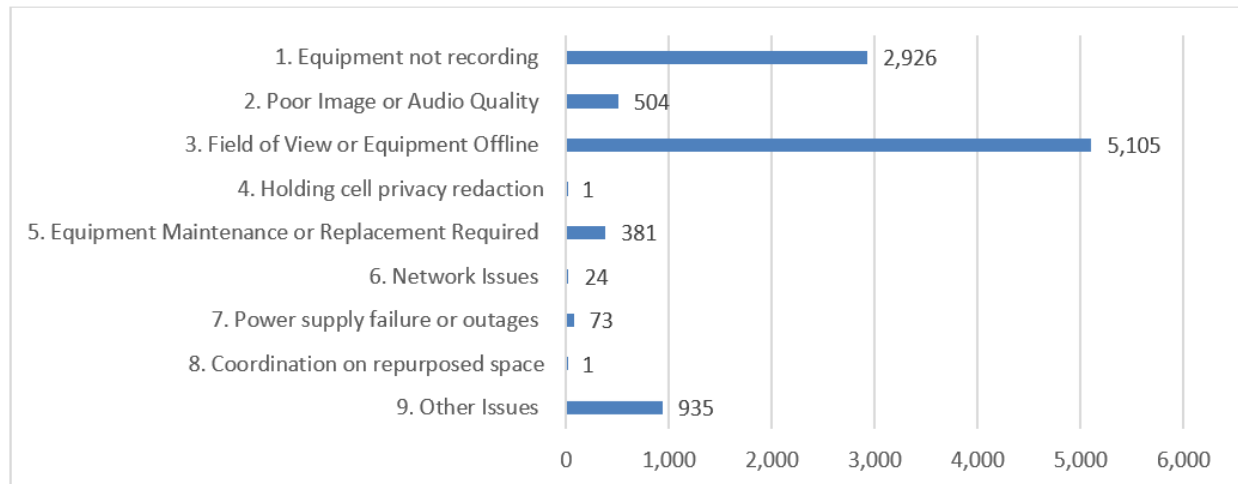
LPOE Personnel Reported CAVSS Outages

BSDP PMO provided information on 9,950 outage work tickets for CAVSS issues reported by LPOEs from April 2022 through April 2023, as presented in Figure 9.



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Figure 9. CAVSS Issues Reported by LPOE Personnel from April 2022 through April 2023



Source: DHS OIG analysis of CBP data

Overall, inadequate video coverage primarily resulted from:

- Office of Facilities and Asset Management facility projects resulting in the addition or removal of cameras without BSDP PMO and Office of Information and Technology coordination;
- a lack of coordination among LPOEs, OFO personnel, and BSDP PMO when repurposing rooms or adding cameras for additional coverage at LPOEs;
- inadequate network infrastructure;
- field of view and gaps in coverage issues being reported but not fixed in a timely manner due to funding and network infrastructure constraints; and
- CAVSS operators not always identifying or reporting field of view and coverage issues and offline cameras because of inadequate training.

Inadequate video coverage also resulted from offline cameras that were reported but not replaced or repaired in a timely manner due to extenuating circumstances. For example, we observed an offline camera in a high location requiring an aerial lift that had not been repaired.

CAVSS Provided Inadequate Audio Coverage

Revisions to CBP’s LPOE design standards in 2018 required the addition of audio coverage to CAVSS. However, according to CBP records, 66 of 167

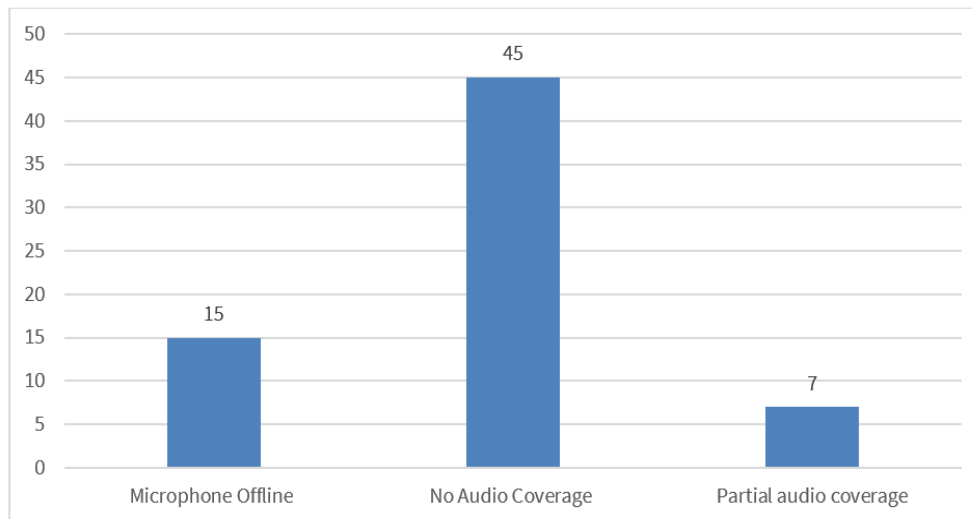


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LPOEs do not have any audio coverage and the remaining 101 LPOEs are covered by a total of approximately 2,600 audio feeds. BSDP PMO is aware that these LPOEs do not have audio coverage and considers it an unfunded CAVSS requirement. We observed 67 audio coverage issues at 12 LPOEs (see Figure 10).

Figure 10. Audio Coverage Issues Observed at 12 LPOEs



Source: DHS OIG analysis of observations at LPOEs

Field personnel at 15 of 49 LPOEs responded to our questionnaire that their location had issues with audio coverage. Ten of 15 respondents said not all areas have audio coverage; other respondents mentioned unclear audio quality due to microphone placements and inconsistent audio.

Overall, inadequate audio coverage primarily resulted from funding and network infrastructure constraints, as well as from CAVSS operators at LPOEs not consistently reporting audio coverage issues.

LPOE Infrastructure Does Not Adequately Support CAVSS

CAVSS experienced recording gaps, poor image quality, and inadequate video and audio coverage due to the LPOEs' inadequate infrastructure, including limited network bandwidth and emergency back-up power, as well as an unreliable electrical grid. These issues resulted in part from CBP not adequately assessing the LPOEs' infrastructure.

We observed multiple LPOEs with inadequate network bandwidth that affected video surveillance quality. In these instances, LPOE personnel were told by BSDP PMO that the camera resolution must be reduced to free up bandwidth.



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Inadequate bandwidth also caused videos to “buffer” and “skip” in real time, resulting in issues playing back video recordings or following incidents in real time, such as trying to track an individual who jumped over a fence into the United States. Ten of 49 LPOEs that responded to our questionnaire also indicated issues with bandwidth. Respondents at two locations said they were told by the BSDP PMO help desk contractor that their picture quality was poor because the resolution had to be turned down for bandwidth purposes. In such instances, CBP may not be able to directly resolve network bandwidth issues and may need to consider alternative solutions.

We also observed three LPOEs that did not have adequate emergency back-up power to ensure operation of CAVSS when experiencing issues with electrical power. While we were onsite at one LPOE, we observed a power surge that caused its CAVSS to go offline and stop recording for about 40 minutes. LPOE personnel stated they were on a “dirty power grid” that caused cameras and other operational equipment to go offline regularly. In this and similar situations, CBP cannot control the reliability of the electrical grid. However, it can mitigate electrical issues by ensuring LPOEs are connected to adequate emergency back-up power.

LPOE Hold Rooms with Lavatory Facilities Had Inadequate Privacy Protections

LPOE design standards require video for hold rooms to capture the entire area except for a detainee’s body while using the lavatory (i.e., toilet). To protect the detainee’s privacy, LPOE design standards state, “The entire room must be viewable, except for the body of the detainee when using the toilet. The head and feet of the detainee shall be visible by the camera and/or vision panel in the door when the detainee is using the toilet. The privacy panel shall be used to block the rest of the detainee’s body from view.” When privacy panels are not available or sufficient to provide adequate privacy, the detainee’s body must be masked or blurred when using the toilet. Figure 11 shows examples of adequate privacy protections for detainees in hold rooms with toilets.

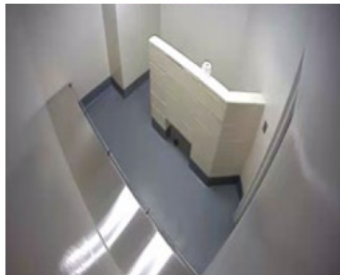


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Figure 11. Examples of Adequate Privacy Protections for Detainees in Hold Rooms with Toilets at Three LPOEs



Video Masking



Privacy Panel



Combination of Video Masking and Privacy Panel

Source: CBP CAVSS footage

LPOEs did not always have the required protection for the detainee’s privacy when using the toilet. At two LPOEs, we observed four hold rooms with toilets that did not have any privacy protections — in these instances, there was no blurred video or physical structure (privacy panel). We also identified two hold rooms at one LPOE with physical structures that did not provide sufficient privacy. Figure 12 shows examples of these hold rooms with toilets.

Figure 12. Examples of Inadequate Privacy Protections for Hold Rooms with Toilets at Two LPOEs



No Privacy Panel or Video Masking



Inadequate Privacy Panel and No Video Masking

Source: CBP CAVSS footage

Additionally, two LPOEs responded to our questionnaire with CAVSS camera footage screenshots of hold rooms that did not have adequate privacy protections for detainees. LPOEs did not have the required privacy protections



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for hold rooms with toilets because CAVSS operators were not fully aware of the privacy redaction requirements.

Conclusion

OFO's CAVSS capabilities will continue to degrade if needed enhancements are not adequately addressed, posing significant security and safety risks for the traveling public, employees, and property. This degradation will adversely impact law enforcement investigations, as well as operational and integrity incident responses. For example, LPOEs we audited did not always fully capture significant incidents — including an officer safety issue, a kidnapping, a medical emergency involving a traveler, and an attempted knife assault on a CBP officer by someone attempting to evade inspection — due to CAVSS limitations. According to LPOE personnel, in these instances, surveillance limitations delayed law enforcement response and investigations and impeded criminal proceedings. In the LPOEs' operational environment, significant incidents may occur at any time, and LPOE personnel heavily rely on CAVSS as a surveillance tool for situational awareness to help carry out their mission.

Recommendations

Recommendation 1: We recommend CBP's Border Security Deployment Program Project Management Office:

- a. assess the impact that video surveillance system network (patching and scanning) updates have on live feeds and recording capabilities;
- b. develop and implement a mitigation plan as warranted based on the impacts identified in (a); and
- c. consider notification options to alert video surveillance system operators of recording gaps.

Recommendation 2: We recommend the CBP Office of Field Operations Executive Assistant Commissioner, Enterprise Services Executive Assistant Commissioner, and appropriate CBP program offices:

- a. conduct a program review to identify improvements required for the video surveillance system, equipment, and network infrastructure at land ports of entry and consider alternative solutions when infrastructure cannot be upgraded; and
- b. establish a risk-based process for upgrading video surveillance system and equipment including factors such as operating environment and limitations at each land port of entry.



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Recommendation 3: We recommend CBP's OFO Directors of Field Operations collaborate with CBP's Border Security Deployment Program Project Management Office and relevant program offices to implement a process to ensure:

- a. continued awareness of and compliance with video surveillance requirements at land ports of entry, such as implementation of a training program for new and existing Centralized Area Video Surveillance System operators; and
- b. land ports of entry personnel coordinate with CBP's Border Security Deployment Program Project Management Office and other program offices when upgrading video surveillance equipment or re-purposing rooms.

Recommendation 4: We recommend CBP's Border Security Deployment Program Project Management Office, in coordination with other relevant program offices, establish a process requiring feasibility studies to identify network infrastructure needs for new video surveillance system equipment and installations and incorporate these outcomes as warranted.

Recommendation 5: We recommend the CBP Office of Information and Technology Assistant Commissioner implement a process to ensure video and audio surveillance equipment installed complies with applicable security and privacy controls required by DHS network standards, CBP information security policies, and Centralized Area Video Surveillance System Design Standards for design and operation, as applicable.

Recommendation 6: We recommend CBP's Border Security Deployment Program Project Management Office, in collaboration with CBP's OFO Directors of Field Operations, take immediate action to ensure all land ports of entry have the required privacy protections for hold rooms with lavatory facilities.

Recommendation 7: We recommend CBP's Border Security Deployment Program Project Management Office, in collaboration with CBP's OFO Directors of Field Operations, survey Centralized Area Video Surveillance System operators annually to obtain feedback related to video and audio equipment.

OIG Analysis of CBP Comments

We obtained written comments on a draft of this report from CBP. We reviewed CBP's management comments, as well as the technical comments previously submitted and updated the report as appropriate. CBP concurred with all



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seven recommendations, we consider them open and resolved. A summary of CBP's responses and our analysis follows.

CBP Response to Recommendation 1: Concur. BSDP PMO will coordinate with the Office of Information and Technology's Cyber Security Directorate to seek a less invasive scanning and patching approach, to include identifying tools available to minimize impacts to scanning and patching and develop a plan to mitigate any identified impacts. Additionally, BSDP PMO is researching other video management solutions with a visualization dashboard of system performance that alert video surveillance system operators when equipment is offline. Estimated Completion Date: January 31, 2024.

OIG Analysis: We consider these actions responsive to the recommendation, which is open and resolved. The recommendation will remain open until CBP provides documentation of the assessment and impacts of patching and scanning updates on recording capabilities, the mitigation plan for the impacts identified, and solutions researched for alerts when equipment is offline.

CBP Response to Recommendation 2: Concur. BSDP PMO will review all LPOEs to identify video surveillance equipment requiring upgrades and will work with the Office of Information and Technology to identify network infrastructure gaps and recommendations for alternative solutions when network infrastructure is not available or cannot be upgraded. BSDP PMO will also develop a risk management plan outlining the need for a new video surveillance solution to meet operational needs at the LPOEs, including factors such as operating environment and limitations. Estimated Completion Date: January 31, 2024.

OIG Analysis: We consider these actions responsive to the recommendation, which is open and resolved. The recommendation will remain open until CBP provides the results of the review of all LPOE video surveillance equipment and the risk management plan.

CBP Response to Recommendation 3: Concur. BSDP PMO will initiate outreach with OFO field offices and provide communication detailing the online training currently available to all new and existing CAVSS users and will work with the field offices to develop training materials on a "train-the-trainer" framework as necessary. BSDP PMO will also communicate with field offices and provide information on the existing service engagement process for requesting equipment upgrades, moves, adds, and changes at LPOEs. Estimated Completion Date: November 30, 2023.

OIG Analysis: We consider these actions responsive to the recommendation, which is open and resolved. The recommendation will remain open until CBP provides documentation of the communications and outreach to OFO field



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offices about the training and existing service engagement process for requesting changes at LPOEs, and a copy of the training materials.

CBP Response to Recommendation 4: Concur. BSDP PMO, in coordination with the Office of Information and Technology, will establish a checklist for identifying the current network infrastructure at all LPOEs to determine requirements for network infrastructure upgrades. Estimated Completion Date: December 29, 2023.

OIG Analysis: We consider these actions responsive to the recommendation, which is open and resolved. The recommendation will remain open until CBP provides the checklist for identifying the current network infrastructure at all LPOEs and the plan for addressing upgrade requirements.

CBP Response to Recommendation 5: Concur. The Office of Information and Technology's Cyber Security Directorate will update the *CBP Information System Security and Privacy* memorandum dated June 26, 2019, and the *CBP Records and Information Management (RIM), and Privacy Requirements* memorandum dated June 3, 2019, so that the BSDP CAVSS owner will ensure video surveillance updates are included in the CAVSS facility design standards managed by the Office of Facilities and Asset Management. Further, the Office of Information and Technology is responsible for the network design and security standards that support the equipment installed to meet the facility design standards. Estimated Completion Date: December 29, 2023.

OIG Analysis: We consider these actions responsive to the recommendation, which is open and resolved. The recommendation will remain open until CBP provides documentation of the updated memorandums and CAVSS facility design standards.

CBP Response to Recommendation 6: Concur. BSDP PMO will task the OFO field offices with ensuring that LPOEs have the required privacy protections in place in the video management system. If they are not in place, field offices will be required to provide the camera names to BSDP PMO for action. Estimated Completion Date: November 30, 2023.

OIG Analysis: We consider these actions responsive to the recommendation, which is open and resolved. The recommendation will remain open until CBP provides documentation that the required privacy protections are in place.

CBP Response to Recommendation 7: Concur. BSDP PMO will develop an automated survey, research the avenue of distribution, and distribute the survey annually to CAVSS LPOE operators to obtain feedback related to video and audio equipment. Estimated Completion Date: February 29, 2024.



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OIG Analysis: We consider these actions responsive to the recommendation, which is open and resolved. The recommendation will remain open until CBP provides a copy of the survey, the survey results, and the plan for addressing the feedback on video and audio equipment.



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Appendix A

Objective, Scope, and Methodology

The Department of Homeland Security Office of Inspector General was established by the *Homeland Security Act of 2002* (Public Law 107–296) by amendment to the *Inspector General Act of 1978*.

We conducted this audit to determine the extent to which CBP is using closed-circuit television video cameras and microphones at LPOEs to ensure the safety of the public, employees, and property. To achieve our objective, we reviewed and analyzed key documentation related to CAVSS requirements and use at LPOEs, including:

- *The Risk Management Process: An Interagency Security Committee Standard*, Appendix B: Countermeasures, 2021 Edition
- CBP’s *Physical Security Policies and Procedures Handbook*, HB1400-02C, April 2020
- *Land Port of Entry Design Standard*, December 2018

We conducted interviews with officials from the Federal Protective Service (FPS) and CBP officials from BSDP PMO; OPR SMD; the Office of Facilities and Asset Management; and Fines, Penalties, and Forfeitures. We also conducted interviews with officials from the General Services Administration and BSDP PMO help desk contractors with responsibilities for maintaining and repairing CAVSS equipment.

We conducted site visits at the following FPS-designated medium- and high-risk LPOEs: Pacific Highway, Peace Arch, Champlain, Highgate Springs, Presidio, El Paso – Bridge of the Americas, DeConcini, Mariposa, San Ysidro, and Otay Mesa. During these visits, we interviewed LPOE personnel and observed:

- CAVSS footage to evaluate the field of view, audio and video coverage, image and audio quality, and operational status for each LPOE, as well as video footage from 11 additional LPOEs connected to CASCs we visited;
- video surveillance camera equipment at the LPOE to determine whether the placement was consistent with requirements and to identify signs of obstruction and damage; and
- select video recordings to determine their availability.

We deployed a questionnaire to 54 LPOEs designated as medium and high security risk to gather information related to the following:



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- facility physical security recommendations;
- inadequate video or audio recordings for significant incidents;
- video and audio surveillance coverage;
- CAVSS issues experienced by the LPOE;
- CAVSS operator training;
- CAVSS maintenance process;
- coordination between BSDP PMO and the LPOE;
- video recording gaps; and
- overall feedback for system improvements.

We analyzed and summarized responses received from 49 LPOEs.

We assessed internal controls that we determined were significant to our audit objective. We identified deficiencies in the control environment, risk assessment, information and communication, and monitoring internal control components. These deficiencies are discussed within the body of the report. Although we assessed CBP controls, our assessment was limited to determining the extent CBP is using closed-circuit television video cameras and microphones at LPOEs to ensure the safety of the public, employees, and property. As such, our internal control assessment may not disclose all internal control deficiencies that may have existed at the time of our audit. Our audit methodology included gathering physical evidence of LPOE operational processes by performing in-person observations of CAVSS and obtaining corroborating testimonial and documentary evidence.

We conducted this performance audit between August 2022 and April 2023 pursuant to the *Inspector General Act of 1978*, 5 U.S.C. §§ 401–424, and according to generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

DHS OIG's Access to DHS Information

During this audit, CBP provided timely responses to DHS OIG's requests for information and did not delay or deny access to information we requested.



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Appendix B
CBP Comments to the Draft Report

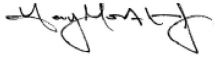
1300 Pennsylvania Avenue, NW
Washington, DC 20229



**U.S. Customs and
Border Protection**

August 28, 2023

MEMORANDUM FOR: Joseph V. Cuffari, Ph.D.
Inspector General

FROM: Henry A. Moak, Jr. 
Component Accountable Office
U.S. Customs and Border Protection

SUBJECT: Management Response to Draft Report: "CBP Needs to
Improve Its Video and Audio Coverage at Land Points of
Entry" (Project No. 22-058-AUD-CBP)

Thank you for the opportunity to comment on this draft report. U.S. Customs and Border Protection (CBP) appreciates the work of the Office of Inspector General (OIG) in planning and conducting its review and issuing this report.

CBP leadership is pleased to note OIG's recognition that CBP's Office of Field Operations (OFO) carries out CBP's mission to protect the American people, safeguard our borders, and enhance the Nation's economic prosperity at 167 Land Ports of Entry (LPOE). Along the northern and southern borders, CBP OFO processes millions of travelers a year. As part of this effort, OFO's Border Security Deployment Program (BSDP), Program Management Office (PMO), manages the Centralized Area Video Surveillance System (CAVSS) at LPOEs and ensures that the CAVSS meets physical security, operational, and integrity requirements, as well as supporting investigations. CBP OFO works with field offices and LPOEs to ensure adequate privacy protections for detainees, as well as video and audio coverage when re-purposing rooms and conducting facility projects. In addition, OFO is enhancing the CAVSS operator training. Through these improvements, CBP remains committed to enhancing CBP's ability to ensure the safety of the public, employees, and property, as well as ensuring the safety and admissibility of goods and people entering the United States.

The draft report contained seven recommendations, with which CBP concurs. Enclosed find our detailed response to each recommendation. CBP previously submitted technical comments addressing several accuracy, contextual, and other issues under a separate cover for OIG's consideration.

Again, thank you for the opportunity to review and comment on this draft report. Please feel free to contact me if you have any questions.



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We look forward to working with you again in the future.

Enclosure



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**Enclosure: Management Response to Recommendations
Contained in Project No. 22-058-AUD-CBP**

OIG recommended that CBP's BSDP PMO:

Recommendation 1:

- a. assess the impact that video surveillance system network (patching and scanning) updates have on live feeds and recording capabilities;
- b. develop and implement a mitigation plan as warranted based on the impacts identified in (a); and
- c. consider notification options to alert video surveillance system operators of recording gaps.

Response: Concur. The OFO BSDP PMO will coordinate with CBP Office of Information Technology (OIT) Cyber Security Directorate to seek a less invasive scanning and patching approach, to include identifying tools available to minimize impacts to scanning and patching, and develop a mitigation plan on impacts identified. Additionally, the BSDP PMO is researching other video management solutions with a visualization dashboard of system performance that provide alerts to video surveillance system operators when equipment is offline. Estimated Completion Date (ECD): January 31, 2024.

OIG recommended that the CBP OFO Executive Assistant Commissioner (EAC), Enterprise Services EAC, and appropriate CBP program offices:

Recommendation 2:

- a. conduct a program review to identify improvements required for the video surveillance system, equipment, and network infrastructure at land ports of entry and consider alternative solutions when infrastructure cannot be upgraded; and
- b. establish a risk-based process for upgrading video surveillance system and equipment including factors such as operating environment and limitations at each land port of entry.

Response: Concur. The OFO's BSDP PMO will conduct a review of all LPOEs to identify video surveillance equipment requiring upgrades, and will work with OIT to identify network infrastructure gaps and recommendations for alternative solutions when network infrastructure is not available or cannot be upgraded. The BSDP PMO will also develop a risk management plan outlining the need for a new video surveillance solution to meet the operational needs at the LPOEs, including factors such as operating environment and limitations. ECD: January 31, 2024.



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OIG recommended that the OFO field office officials collaborate with CBP's BSDP PMO and relevant program offices:

Recommendation 3: Implement a process to ensure:

- a. continued awareness of and compliance with video surveillance requirements at land ports of entry, such as implementation of a training program for new and existing Centralized Area Video Surveillance System operators; and
- b. land ports of entry personnel coordinate with CBP's Border Security Deployment Program Project Management Office and other program offices when upgrading video surveillance equipment or re-purposing rooms.

Response: Concur. The OFO BSDP PMO will initiate outreach with OFO field offices and provide communication detailing the online training currently available to all new and existing CAVSS users and will work with the field offices to develop training materials on a "train-the-trainer" framework as necessary. The BSDP PMO will also communicate with field offices and provide information on the existing service engagement process for requesting equipment upgrades, moves, adds, and changes at the LPOE. ECD: November 30, 2023.

OIG recommended that CBP's BSDP PMO, in coordination with other relevant program offices:

Recommendation 4: Establish a process requiring feasibility studies to identify network infrastructure needs for new video surveillance system equipment and installations and incorporate these outcomes as warranted.

Response: Concur. The OFO BSDP PMO, in coordination with OIT, will establish a checklist for identifying the current network infrastructure at all LPOEs to determine the network infrastructure upgrade requirements. ECD: December 29, 2023.

OIG recommended that the CBP OIT Assistant Commissioner:

Recommendation 5: Implement a process to ensure video and audio surveillance equipment installed complies with applicable security and privacy controls required by DHS network standards, CBP information security policies, and Centralized Area Video Surveillance System Design Standards for design and operation, as applicable.

Response: Concur. The OIT Cyber Security Directorate will update the "CBP Information System Security and Privacy" memorandum dated June 26, 2019, and the "CBP Records and Information Management (RIM), and Privacy Requirements" memorandum dated June 3, 2019, so that the BSDP CAVSS owner will ensure video



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surveillance updates are included in the CAVSS Facility Design Standards managed by the Office of Facilities and Asset Management. Further, OIT is responsible for the network design and security standards that support the equipment installed to meet the facility design standard. ECD: December 29, 2023.

OIG recommended that CBP Director of Field Operations:

Recommendation 6: Take immediate action to ensure all land ports of entry have the required privacy protections for hold rooms with lavatory facilities.

Response: Concur. The OFO BSDP PMO will conduct a tasking with the OFO field offices to ensure the LPOEs have the required privacy protections in place in the video management system. If they are not in place, field offices will be required to provide the camera names to the BSDP PMO for action and to be addressed. ECD: November 30, 2023.

OIG recommended that CBP's BSDP PMO, in collaboration with the Director of Field Operations:

Recommendation 7: Survey Centralized Area Video Surveillance System operators annually to obtain feedback related to video and audio equipment.

Response: Concur. The BSDP PMO will develop an automated survey, research the avenue of distribution, and distribute the survey annually to CAVSS LPOE operators to obtain feedback related to video and audio equipment. ECD: February 29, 2024.



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Appendix C
Facility Security Risk Assessments Conducted at LPOEs

According to the ISC’s Risk Management Process Standard, risk assessments must be conducted every 3 to 5 years, based on the facility’s security rating (minimum, low, medium, high, very high), to identify security vulnerabilities and recommend countermeasures. In accordance with this standard, FPS conducts facility security assessments (FSA), and CBP OPR similarly conducts physical security risk assessments, at LPOEs. As part of these assessments, video surveillance systems are evaluated against security criteria associated with the LPOE’s facility security rating on the sufficiency of the system’s coverage, monitoring, and recording.

“The Closed-Circuit Video ... system configuration is insufficient in coverage and capability, leaving the facility, tenants, and employees vulnerable to criminal or terrorist activity.”

-2022 LPOE FSA

We reviewed the latest assessments for relevant CAVSS findings and recommendations for 54 LPOEs designated as medium or high risk per facility security ratings. FPS conducted the FSAs at 42 of these locations; CBP conducted risk

assessments at the remaining 12 locations. Thirty-four of the 54 assessments included at least one CAVSS recommendation, with a total of 53 CAVSS recommendations. LPOE personnel reported 13 of the 53 total recommendations remained open, 34 recommendations were closed, and the other 6 were of unknown status. Of the 13 open recommendations, 10 were related to inadequate camera coverage or insufficient lighting, and 3 were related to CAVSS being outdated and needing upgrades. According to LPOE personnel, the unresolved recommendations were generally due to funding constraints, or the resolutions were in process. The FSAs included CAVSS deficiencies identified, to include recommendations, and generally included cost information. However, the OPR risk assessments did not include cost information.



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Appendix D
BSDP PMO’s Future Unfunded Centralized Area Video Surveillance System Requirements

BSDP PMO provided a listing of future unfunded requirements needed for CAVSS and included the associated cost estimates for each project.

BSDP PMO Future Unfunded CAVSS Requirements	BSDP PMO Estimate
Replacement of IP cameras due to known security vulnerabilities	\$8M
Network infrastructure upgrades for CAVSS ²² <ul style="list-style-type: none"> Estimate dependent on the solution and need for switch ports and bandwidth increases 	\$100M
Upgrade analog cameras to IP cameras <ul style="list-style-type: none"> Does not include network infrastructure upgrades need to support the upgrade 	\$38M
Initial roll-out for the current video management system <ul style="list-style-type: none"> Current contract and video management system is at end of service and end of life Estimated amount may be more or less depending on the solution selected Does not include network infrastructure upgrades 	\$80M-\$100M
LPOE Design Standards Upgrades – For example, according to BSDP PMO, around 35% of LPOEs are not at design standards primarily due to not having audio coverage <ul style="list-style-type: none"> Does not include network infrastructure upgrades 	\$125M (\$25M per year over 5 years)

Source: BSDP PMO

²² The *Infrastructure and Investment Jobs Act of November 2021, Public Law 117-58*, provides infrastructure funding for LPOE modernization, including \$3.4 billion for GSA to improve the infrastructure of LPOEs and \$330 million for CBP to acquire LPOE equipment. GSA reported it is planning 26 major modernization projects at LPOEs, 16 of which are listed on CBP’s 5-year plan.



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Appendix E
BSDP 120-Hour Video Outages Reporting Requirements

The *Consolidated Appropriations Act of 2020* mandated the following requirement for CBP related to video monitoring for FY 2020:

Any failure of closed-circuit television and associated storage equipment in excess of 120 hours at any CBP facility that detains migrants must be reported to the Office of Professional Responsibility. Such reporting shall be updated weekly.

We reviewed and analyzed information related to video outages that lasted more than 120 hours. Although the reporting requirement was only for FY 2020, we determined BSDP PMO documents reported outages at LPOEs in excess of 120 hours and reports this information to CBP OPR weekly. Overall, we determined BSDP PMO and CBP OPR are reviewing and overseeing reported CAVSS outages at LPOEs.



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Appendix F

Field Suggestions for Centralized Area Video Surveillance System Improvements

LPOEs provided a wide range of responses when asked for suggestions to improve CAVSS to better support field operations. Field personnel suggestions included:

- Onsite technicians/regular technician visits to address camera outages, breakages, cleaning, maintenance, and upkeep in a more timely manner;
- Regular preventative maintenance schedules;
- Notifications of all outages/offline cameras/field of view issues/recording gaps and tracking of outages for patterns;
- Notifications of system issues such as upgrades and maintenance conducted;
- Centralized tracking system for work ticket status and updates;
- A reporting feature, including:
 - equipment inventory, by type and location;
 - map of camera and microphone locations;
 - statistics on camera quantity by location and system-wide for the area of responsibility; and
 - user rosters to allow maintenance of the database;
- Outstanding open tickets and number of days they have been open;
- A more user-friendly system, including a “lite” version for users who do not require video-burning capacity;
- Mobile access to video management software/live feeds;
- Up-to-date cameras/feeds and audio systems, prioritizing LPOEs with older equipment for updates;
- Increased bandwidth capacity;
- Annual review of camera fields of view to address changing border crossing infrastructure;
- Surveying source operators who use the system for suggestions, comments, and feedback;
- Hands-on training;
- Requiring adequate training and clearances for CAVSS operators;
- Yearly system training for new officers;
- Central site for training material and system guides;
- Standardized communication requirements;
- Enhanced system privileges for CASC officers; and
- A temporary, mobile-type camera set up with its own power source that could be moved in support of new operations or areas that lack visibility or infrastructure, to better protect officer safety.



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Appendix G
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