United States Government Accountability Office

Report to Congressional Committees

February 2024

DHS ANNUAL ASSESSMENT

Most Programs Are Meeting Current Goals, but Some Continue to Face Cost and Schedule Challenges

Accessible Version

Revised March 7, 2024 to correct the program assessment headers on report pages 56 and 59.

GAO-24-106573

GAO Highlights

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Highlights of GAO-24-106573

A Report to Congressional Committees **February 2024**

DHS Annual Assessment

Most Programs Are Meeting Current Goals, but Some Continue to Face Cost and Schedule Challenges

Why GAO Did This Study

To help execute its many critical missions, the Department of Homeland Security (DHS) plans to spend more than $4 billion on its portfolio of major acquisition programs—those with life-cycle costs generally over $300 million—in fiscal year 2024. DHS acquisition management was removed from GAO's High-Risk Series in 2023.

The Explanatory Statement accompanying the DHS Appropriations Act, 2015, included a provision for GAO to review DHS's major acquisitions on an ongoing basis. This report, GAO's ninth review, assesses the extent to which selected DHS major acquisition programs are meeting their baseline cost, schedule, and performance goals.

GAO selected and reviewed 26 of DHS's largest acquisition programs, including those that GAO identified as at risk of poor outcomes, to determine program status as of September 30, 2023. To conduct this work, GAO reviewed key acquisition documents; collected cost, schedule, and performance information; and interviewed DHS officials.

Disaster Response

Border Security

Transportation Security

Source: eric/stock.adobe.com, CBP/Josh Denmark, and TSA. | GAO-24-106573

What GAO Found

DHS invests billions of dollars annually to acquire systems that help secure the border, increase marine safety, screen travelers, enhance cybersecurity, and execute a wide variety of other operations.

Cost and schedule status. Of the 26 DHS acquisition programs that GAO selected to review, 16 had department-approved acquisition program baselines—a summary of measurable goals indicating how the system will perform, when it will be delivered, and what it will cost. Fifteen of the 16 programs met their current cost and schedule goals, while one program was in breach status in fiscal year 2023. The Homeland Advanced Recognition Technology program breached its schedule due to continued technical challenges and contributing financial constraints associated with increment 1 development. Further, some programs experienced ongoing challenges, while two of DHS's costliest programs reported significant cost growth and delays.

- The Offshore Patrol Cutter continues to face significant cost and schedule challenges despite a program restructure in 2020. The program has incurred cost growth of $6 billion since 2012 and it faces delays of almost 1.5 years for delivery of the first four cutters.
- The Polar Security Cutter program increased its cost baseline by $3.5 billion and its lead ship delivery goal has been delayed by more than 2 years as the program faces continued challenges with achieving a stable design.

Thirteen of the 16 programs we reviewed have rebaselined—established new cost, schedule, or performance goals—at least once since their initial baselines were established. Some have rebaselined due to scope changes like increasing quantity, while others have rebaselined due to insufficient understanding of requirements and complexity of the work to be accomplished. In addition, five programs requested schedule adjustments to address COVID-19 effects.

Performance status. All seven of the 16 programs GAO reviewed that completed testing in 2023, met their current performance goals. These programs completed operational test and evaluation for at least one increment or segment in operationally realistic conditions, which determines whether a system can perform as required. The remaining nine programs have either not yet started operational test and evaluation or testing is ongoing.

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Abbreviations

ADE acquisition decision event

APB	acquisition program baseline
CAE	component acquisition executive
DHS	Department of Homeland Security
HART	Homeland Advanced Recognition Technology
IT	information technology
KPP	key performance parameter
LCCE	life-cycle cost estimate
O&S	operations and support
OPC	Offshore Patrol Cutter
PC&I	procurement, construction, and improvements
PSC	Polar Security Cutter

U.S. GOVERNMENT ACCOUNTABILITY OFFICE
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February 22, 2024

Congressional Committees

Each year, the Department of Homeland Security (DHS) invests billions of dollars in a diverse portfolio of major acquisition programs to help execute its many critical missions. DHS and its components are acquiring systems to help secure the border, advance maritime safety, screen travelers, enhance cybersecurity, improve disaster response, and execute a wide variety of other operations. In fiscal year 2024, DHS plans to spend over $4 billion on these acquisition programs. Over the life cycle of these programs, the department plans to invest $198 billion.

To help manage its acquisition programs, DHS established an acquisition management policy in November 2008. Over time, department leadership has dedicated resources and implemented additional guidance designed to improve acquisition program oversight. We have found the policy to be generally sound in that it reflects key program management practices identified in our prior work. Over the years, we have highlighted challenges DHS has faced in implementing the policy and strengthening its acquisition management function. For example, we previously identified acquisition management as one of five areas needing management attention, as reported in our High-Risk Series.[1] In April 2023, we determined that DHS had made significant progress in addressing acquisition-related outcomes including improving acquisition workforce management. It also made progress in implementing new policies and processes to improve data quality and oversight to help ensure that its major acquisition programs achieve their cost, schedule, and capability goals. Therefore, we narrowed the High-Risk area to focus on DHS's remaining work in areas that continue to experience significant challenges: IT and financial management.[2]

While DHS acquisition management was removed from the High-Risk Series, we continue to make recommendations to strengthen DHS's

[1]GAO, *High-Risk Series: An Update*, GAO-11-278, (Washington, D.C.: Feb. 16, 2011). In 2011, we identified that DHS needed to focus its efforts on five management areas—human capital, acquisitions, IT, financial, and management integration.

[2]GAO, *High-Risk Series: Efforts Made to Achieve Progress Need to Be Maintained and Expanded to Fully Address All Areas*, GAO-23-106203 (Washington, D.C.: Apr. 20, 2023).

acquisition management processes. For example, in August 2023 we reviewed DHS acquisition risk management policies and guidance and found gaps in guidance and implementation.[3] We made eight recommendations to DHS, including that, as it updates its risk management guidance, it includes steps to enhance programs' communication with stakeholders, improve direction to programs on providing current risk data to leadership, and address portfolio risk management. DHS agreed with the recommendations and has identified actions to address them. Additionally, in April 2023 we found that selected programs did not complete cybersecurity risk memorandums.[4] We recommended that DHS update its cybersecurity instruction to clarify which major acquisition programs are required to have completed these memorandums and when exemptions apply. DHS agreed with the recommendation and is identifying steps to address it.

The Explanatory Statement accompanying a bill to the Department of Homeland Security Appropriations Act, 2015 contains a provision for GAO to conduct ongoing reviews of DHS major acquisition programs, as directed in the Senate report.[5] This is our ninth such review. This report assesses the extent to which selected DHS major acquisition programs are meeting their baseline cost, schedule, and performance goals. It also discusses the reasons for why a program is not meeting a baseline goal.

To conduct our assessment, we selected programs for review from DHS's 36 major acquisition programs identified in the department's January 2023 Master Acquisition Oversight List. DHS defines major acquisitions as level 1 for programs with life-cycle cost estimates of $1 billion or more

[3]GAO, *DHS Acquisitions: Opportunities Exist to Enhance Risk Management*, GAO-23-106249 (Washington, D.C.: Aug. 24, 2023).

[4]GAO, *DHS Annual Assessment: Major Acquisition Programs Are Generally Meeting Goals, but Cybersecurity Policy Needs Clarification*, GAO-23-106701 (Washington, D.C.: Apr. 20, 2023).

[5]Explanatory Statement submitted by Mr. Rogers of Kentucky, Chairman of the House Committee on Appropriations, regarding H.R. 240, Department of Homeland Security Appropriations Act, 2015, 161 Cong. Rec., H-276 (Jan. 13, 2015) (referencing S. Rep. No. 113-198, at 22-23).

and level 2 for programs with life-cycle cost estimates from $300 million to less than $1 billion.[6]

From the list of 36 programs, we selected 26 programs to assess in this report. We selected 15 level 1 major acquisition programs that had at least one segment in the process of obtaining new capabilities at the initiation of this review. We selected 11 other level 1 or level 2 DHS major acquisition programs that we identified as at risk of not meeting cost, schedule, or performance goals. We excluded the remaining 10 major acquisition programs for a variety of reasons, including lower risk programs already in deployment.

To determine the extent to which the 26 selected programs were meeting their established goals, we analyzed key acquisition documentation containing program cost, schedule, and performance information, such as acquisition program baselines (APB). We focused our portfolio analysis on 16 of the 26 programs in our scope. We excluded nine programs that did not have department-approved APBs as of September 30, 2023. These programs have not yet progressed to the point in the acquisition life-cycle framework where an approved acquisition program baseline is required by policy. We also excluded the Border Wall System Program from our portfolio analysis due to the January 2021 Presidential Proclamation directing a pause in the construction of the border wall to the extent permitted by law. In light of this direction, we determined it would be inconsistent to perform aggregated analyses with cost, schedule, and performance status as of January 2021 and all other programs as of September 2023.[7]

[6]In some cases, DHS may define a program with a life-cycle cost estimate less than $300 million as a major acquisition if it has significant strategic or policy implications for homeland security, among other things. DHS's Master Acquisition Oversight List also includes level 3 nonmajor acquisition programs. These programs have life-cycle cost estimates of at least $50 million but less than $300 million. The acquisition decision authority for these programs is the Component Acquisition Executive. Programs designated as level 3 nonmajor acquisition programs in the January 2023 Master Acquisition Oversight List are not in the scope of this review.

[7]See Termination of Emergency With Respect to the Southern Border of the United States and Redirection of Funds Diverted to Border Wall Construction, Pres. Proclamation No. 10142, 86 Fed. Reg. 7225 (Jan. 27, 2021) (issued Jan. 20). GAO, *Southwest Border: Schedule Considerations Drove Army Corps of Engineers' Approaches to Awarding Construction Contracts through 2020*, GAO-21-372 (Washington, D.C.: June 17, 2021). The cut-off date for our review was September 30, 2023, so any subsequent Border Wall System Program actions and activities are not included in this report.

We also conducted individual assessments for all 26 programs in our review. Specifically, we analyzed key acquisition documents such as acquisition plans, APBs, test and evaluation master plans, and life-cycle cost estimates. We used a questionnaire to collect standardized information on cost, schedule, and performance progress. We interviewed program, component, and headquarters officials to discuss current program status as of September 2023.

Appendix I presents individual assessments of and information about each of the 26 programs we reviewed. These assessments include key information such as the status and evaluation of program schedules, costs, and performance. Our program assessments are intended to provide decision makers with a means to quickly gauge program progress and determine the extent to which programs face any cost, schedule, performance, or management risks. See table 1 for the full list of programs that we reviewed.

Table 1: DHS Major Acquisition Programs Selected for Review

Component	Program	Acquisition level (as of January 2023)
Cybersecurity and Infrastructure Security Agency	Continuous Diagnostics and Mitigation (CDM)	1
	National Cybersecurity Protection System (NCPS)	1
	Next Generation Network Priority Services (NGN- PS) Phase 1	2
	Next Generation Network Priority Services (NGN-PS) Phase 2	2
Federal Emergency Management Agency	Enterprise Date and Analytics Modernization Initiative (EDAMI)	2
	Grants Management Modernization (GMM)	2
	Integrated Public Alert and Warning System (IPAWS)	2
Management Directorate	Homeland Advanced Recognition Technology (HART)	1
Transportation Security Administration	Checkpoint Property Screening System (CPSS)	1
	Credential Authentication Technology (CAT)	2
U.S. Coast Guard	Medium Range Recovery Helicopter (MH-60T)	1
	Medium Range Surveillance Aircraft (HC-144B & HC-27J)	1
	Offshore Patrol Cutter (OPC)	1
	Polar Security Cutter (PSC)	1
	Waterways Commerce Cutter (WCC)	1
	270’ Medium Endurance Cutter Service Life Extension Program (SLEP)	1

Component	Program	Acquisition level (as of January 2023)
U.S. Customs and Border Protection	Automated Commercial Environment (ACE)	1
	Biometric Entry-Exit (BE-E)	1
	Border Wall System Program (BWSP)	1
	Common Operating Picture (COP)	2
	Cross Border Tunnel Threat (CBTT)	1
	Integrated Surveillance Towers (IST)	1
	Light Enforcement Platform (LEP)	1
	Medium Lift Helicopter (MLH)	1
	Multi-Role Enforcement Aircraft (MEA)	1
	Non-Intrusive Inspection Integration (NII-I)	1

Legend: shaded rows = the program has not yet established an acquisition program baseline approved by DHS leadership

Source: GAO analysis of Department of Homeland Security (DHS) data. | GAO-24-106573

Appendix II provides detailed information on our objectives, scope, and methodology.

We conducted this performance audit from January 2023 to February 2024 in accordance with 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.

Background

To help manage its multibillion dollar acquisition investments, DHS established policies and processes for acquisition program management, oversight, and test and evaluation. The department uses these policies and processes to deliver systems that are intended to close critical capability gaps, helping enable DHS to execute its missions and achieve its goals. DHS had a process allowing programs to adjust their cost and schedule baselines for effects attributable to COVID-19. This process is no longer in effect.

Acquisition Program Management Policy and Oversight

DHS's policies and processes for managing major acquisition programs are primarily contained in its Acquisition Management Directive 102-01

and Acquisition Management Instruction 102-01-001.[8] DHS issued the initial version of its directive in November 2008 in an effort to establish an acquisition program management system that effectively provides required capability to users in support of the department's missions. DHS has issued multiple updates to its acquisition program management directive and instruction, in part to be responsive to our recommendations. DHS issued the current version of the directive in February 2019 and the current version of the instruction in January 2023.[9]

The Under Secretary for Management is the acquisition decision authority for the department's largest acquisition programs—level 1 programs with life-cycle cost estimates of $1 billion or greater, as well as level 2 programs with cost estimates between $300 million and $1 billion. Component Acquisition Executives—typically the most senior acquisition management official within each DHS component—may be delegated acquisition decision authority for level 2 programs.

DHS acquisition management policy establishes an acquisition life-cycle framework that identifies major milestones that a program must complete.[10] It also identifies a series of acquisition decision events (ADE) where the acquisition decision authority shall review key documents to assess whether the program is ready to proceed to the next phase and, if so, it approves those documents.[11] Depending on the program, these events can occur simultaneously, within months of each other, or be spread over several years. Of note, the policy was revised in 2019 to require the acquisition decision authority to approve APBs by ADE 2B.

[8]Department of Homeland Security, *Acquisition Management Directive*, DHS Directive 102-01 (July 28, 2015) (incorporating change 1, Feb. 25, 2019); and *Acquisition Management*, DHS Instruction 102-01-001 (Jan. 10, 2023).

[9]*Acquisition Management Directive*, DHS Directive 102-01 (July 28, 2015) (incorporating change 1, Feb. 25, 2019); *Acquisition Management*, DHS Instruction 102-01-001 (Jan. 10, 2023).

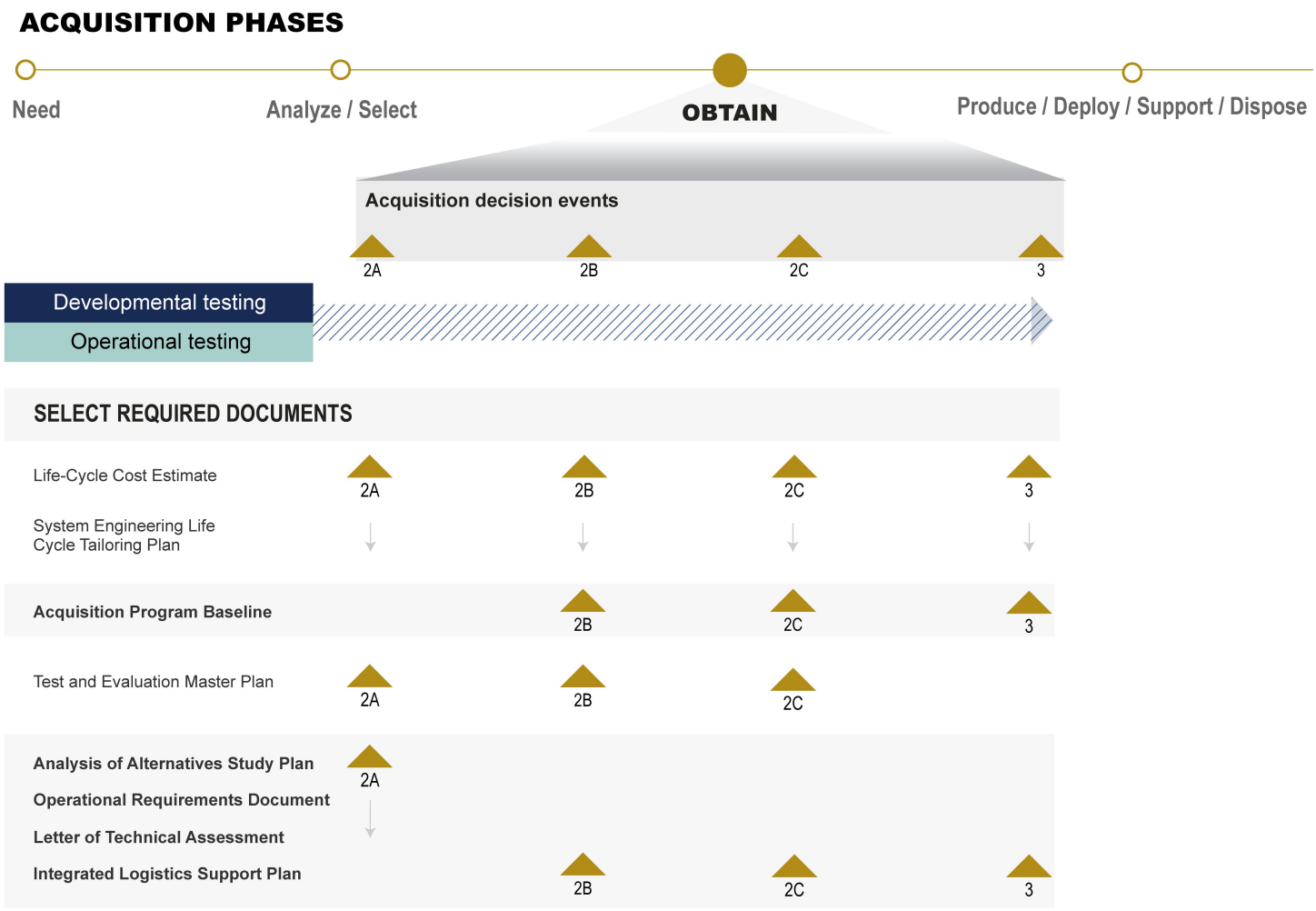
[10]The DHS acquisition life-cycle framework includes phases designed to identify the need for a new acquisition program; review alternative approaches to meet the need and recommend a best option; develop, test, and evaluate the selected option; produce and deliver the capability to its operators; and maintain the capability until it is retired.

[11]DHS acquisition decision events in the obtain phase include ADE 2A—when a program or increment enters into the obtain phase of its life cycle; ADE 2B—when a program's initial acquisition program baseline is approved; ADE 2C—when low-rate production or incremental delivery is approved; and ADE 3—when full-rate production or deployment is approved.

Under the prior version of the policy, APB approval was required at ADE 2A.

Figure 1 reflects selected documents identified in the January 2023 acquisition management instruction that require department-level approval in the obtain phase.

Figure 1: DHS Acquisition Decision Events in the Obtain Phase for Major Acquisition Programs with Selected Required Documents



Source: GAO analysis of Department of Homeland Security (DHS) documents. | GAO-24-106573

Note: DHS acquisition decision events (ADE) in the obtain phase include ADE 2A—when a program or increment enters into the obtain phase of its life cycle; ADE 2B—when a program's initial acquisition program baseline is approved; ADE 2C—when low-rate production or incremental delivery is approved; and ADE 3—when full-rate production or deployment is approved.

DHS's acquisition policies also include a 2020 instruction that outlines a rapid acquisition life-cycle framework. This framework is intended to enable rapid delivery of capabilities to the field by streamlining the standard acquisition framework and requiring more technical maturity of the acquired solution. According to DHS officials, this instruction is intended to be used when acquiring solutions that have already been developed and are ready to field to meet requirements.

DHS acquisition program management policy states that the APB is the agreement between the acquisition program, component, and department-level officials that establishes how systems being acquired will perform, when they will be delivered, and what they will cost.[12] Specifically, the APB establishes a program's costs, schedule, and performance parameters. We refer to these parameters as goals in our analysis. According to the Director, Office of Test and Evaluation, programs traditionally use key performance parameters (KPP) from their Operational Requirements Document as the APB performance parameters. DHS requirements policy describes KPPs as a program's most important and nonnegotiable requirements that a system must meet to fulfill its fundamental purpose. For example, KPPs could include airspeed for an aircraft or the detection range for a surveillance system.

The APB establishes objective (target) and threshold (maximum acceptable for cost, latest acceptable for schedule, and minimum or maximum acceptable for performance) parameters. According to DHS policy, a program that has not met or will not meet any cost, schedule, or performance threshold approved in the APB will be considered to be in breach status or in certain circumstances, result in an administrative update. If a program does not satisfy an approved APB threshold or if the program manager forecasts a threshold will not be met in the future, the program manager is to formally notify the Component Acquisition Executive and acquisition decision authority in a memorandum identifying the root cause and operational effect of the unmet threshold.[13] The Executive Director, Office of Program Accountability and Risk Management, assesses the formal notification memorandum to determine whether the acquisition program requires an administrative update or is in breach status.

[12]*Acquisition Management*, DHS Instruction 102-01-001 (Jan. 10, 2023).

[13]*Acquisition Management*, DHS Instruction 102-01-001 (Jan. 10, 2023).

DHS's January 2023 update to its acquisition management policy introduced requiring an administrative update as an alternative to determining the program is in breach status when a program cannot meet an approved cost, schedule, or performance parameter. An administrative update may be approved by the acquisition decision authority due to a change in scope resulting from situations outside of the program's control such as natural events or changes in funding, among others. If the root cause for not meeting a baseline parameter does not meet the criteria for an administrative update or the program requires more than 12 months to be within approved APB parameters, the program will be determined to be in breach status. Programs in breach status are required to develop a remediation plan that outlines a time frame for the program to either return to its APB parameters, rebaseline (i.e., establish new cost, schedule, or performance parameters), or have a DHS-led program review that results in recommendations for a revised baseline.

In addition to the acquisition decision authority, other bodies and senior officials support DHS's acquisition management function. For example:

- **The Acquisition Review Board** reviews major acquisition programs for proper management, oversight, accountability, and alignment with the department's strategic functions at ADEs and other meetings as needed. The board is chaired by the acquisition decision authority.
- **The Line of Business Chiefs** include the DHS Chief Financial Officer, the Chief Information Officer, the Chief Procurement Officer, the Chief Human Capital Officer, the Chief Security Officer, and the Chief Readiness Support Officer, among others. The Line of Business Chiefs have responsibility for executing acquisition program portfolios and are responsible and accountable for adhering to the department's acquisition program policies and procedures to ensure sound management, review, support, and approval. The Line of Business Chiefs are also members of the Acquisition Review Board.
- **The Office of Program Accountability and Risk Management** is responsible for DHS's overall acquisition program governance process. The office supports the Acquisition Review Board, and reports directly to the Under Secretary for Management. The office also develops and updates acquisition program management policies and procedures, reviews major programs, provides guidance for workforce planning activities, and provides support to program managers.
- **Components**, such as U.S. Customs and Border Protection, the Transportation Security Administration, and the U.S. Coast Guard,

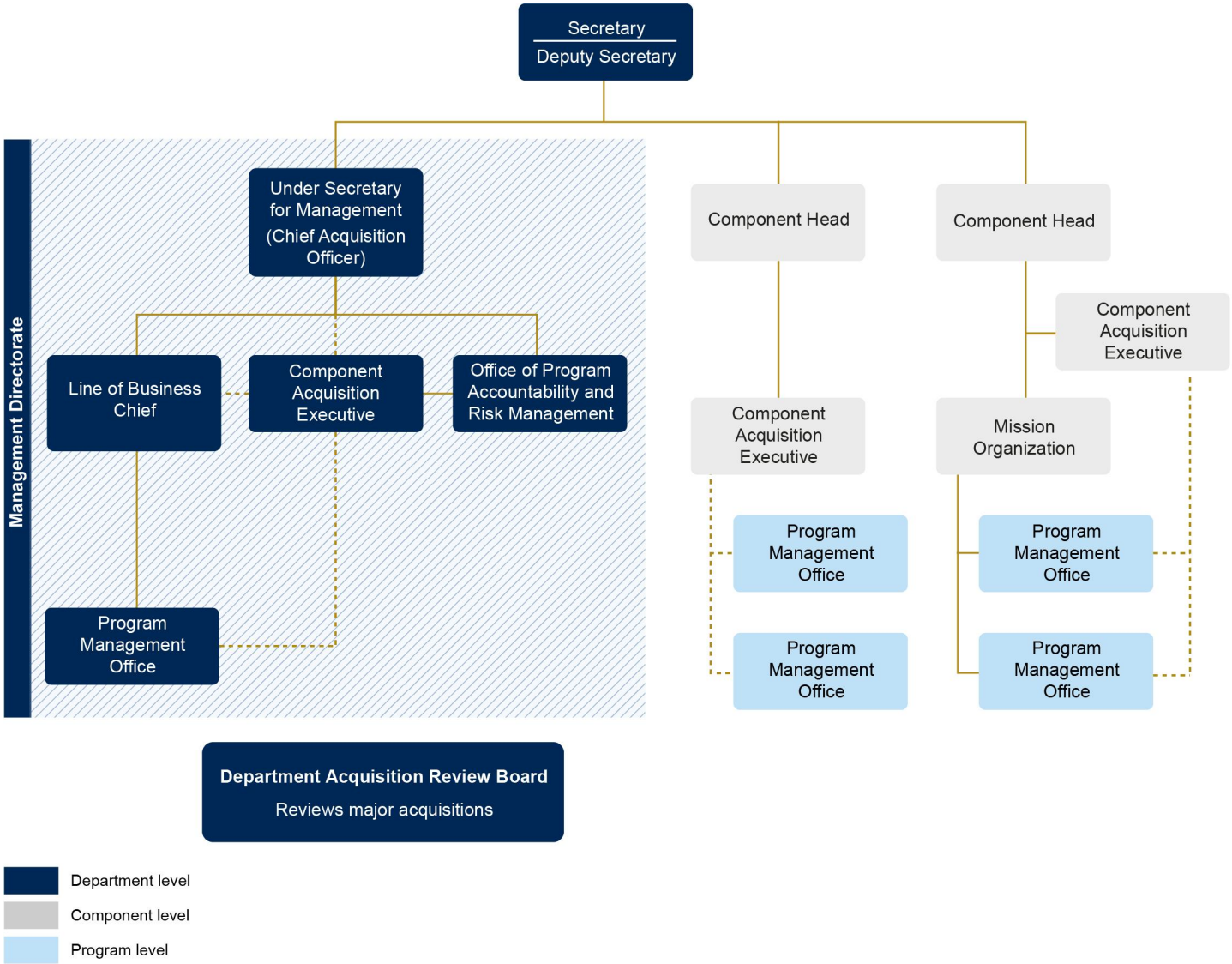
sponsor specific acquisition programs.[14] Once programs complete delivery of all planned capabilities to end users and reach full operational capability, oversight stays with the component.

- **Component Acquisition Executives** are responsible for overseeing the execution of their respective portfolios. In July 2021, DHS also established a Component Acquisition Executive position within its Management Directorate.
- **Program management offices** are responsible for planning and executing DHS's individual programs. They are expected to do so within the cost, schedule, and performance parameters established in their APBs. If they cannot do so, programs are considered to be in breach status or require an administrative update, and program managers must take specific steps, as noted above.
- **Program user representatives** have overall responsibility for defining capability requirements. They are involved in ensuring the overall test and evaluation strategy and individual activities properly reflect those requirements and the overall operational environment, including the threat. The user representative identifies mission critical functions, contributes to the development of failure definition and scoring criteria used for testing, and coordinates for representative system operators and maintainers to support test and evaluation activities.

Figure 2 depicts the relationship between acquisition program managers at the department, component, and program level.

[14]DHS's components consist of operational components—those that have responsibility for directly achieving one or more of the department's missions or activities—and support components—those that generally provide assistance or guidance to other DHS components or external organizations. For example, the Management Directorate is a support component that generally provides assistance and guidance to other DHS components and external organizations and includes functions like budget, finance, IT, facilities, human capital, and acquisitions. However, the Management Directorate also manages acquisition programs. Typically, these programs are those that involve multiple components, such as programs related to relocating the DHS headquarters and updates to financial systems for multiple components.

Figure 2: Department of Homeland Security's Acquisition Management Structure



Source: GAO analysis of Department of Homeland Security information. | GAO-24-106573

DHS Policy on Baseline Adjustments due to Effects from COVID-19

In July 2022, DHS issued a memorandum authorizing Component Acquisition Executives—in coordination with the Office of Program Accountability and Risk Management, program managers, and others—to

adjust schedule milestones for level 1 and certain level 2 major acquisitions up to two quarters to address the effects of COVID-19, supply chain issues, and inflation. Requests for adjustments longer than two quarters required a written justification and acquisition decision authority approval. This memorandum also granted Component Acquisition Executives authority to adjust APB cost parameters. Component Acquisition Executives seeking to adjust cost parameters for major acquisition programs were to notify the Office of Program Accountability and Risk Management and the Office of the Chief Financial Officer's Cost Analysis Division. The new cost goals were to be coordinated with the Cost Analysis Division and underpinned with analysis in accordance with DHS's financial management policy. DHS required that any program officials requesting milestone adjustment include information about how the program was affected by COVID-19, supply chain issues, or inflation. The Office of Program Accountability and Risk Management's official documentation of the adjustments was required by October 31, 2022. This July 2022 memorandum followed an October 2020 memorandum with a similar purpose. We previously found that DHS components adjusted APB milestones for four programs as part of the process outlined in the October 2020 memorandum.[15] The process outlined in these memorandums is no longer in effect.

Test and Evaluation Policy

In October 2020, DHS issued a revised test and evaluation policy governing the department's major acquisition programs.[16] The primary purpose of test and evaluation is to provide timely, accurate information to managers, decision makers, and other stakeholders to reduce programmatic, financial, schedule, and performance risks. We provide an overview of test and evaluation activities in the individual program assessments presented in appendix I, as appropriate.

DHS test and evaluation policy assigns specific responsibilities to particular individuals and entities throughout the department:

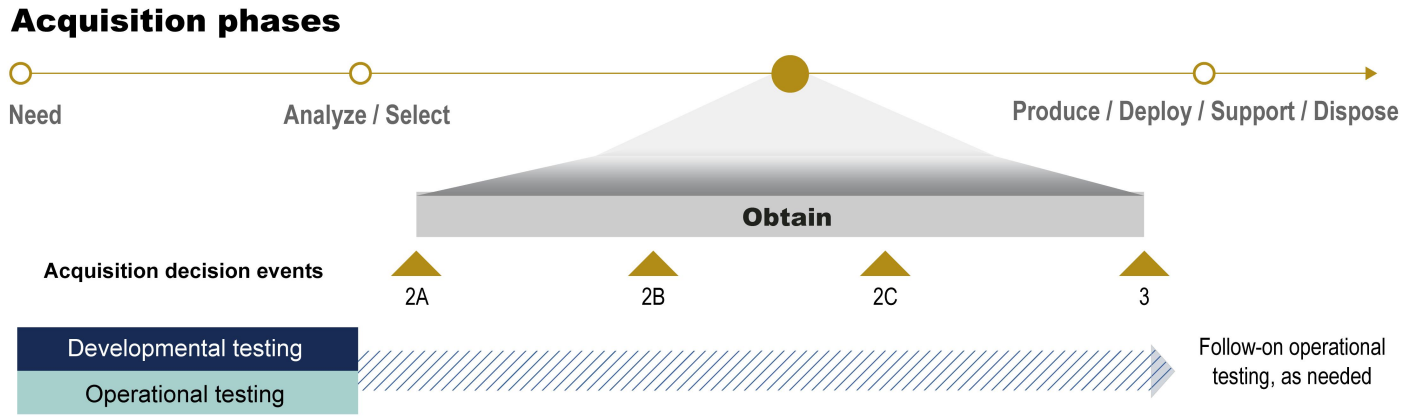
[15]GAO, *DHS Annual Assessment: Most Acquisition Programs Are Meeting Goals Even with Some Management Issues and COVID-19 Delays*, GAO-22-104684 (Washington, D.C.: Mar. 8, 2022).

[16]Department of Homeland Security, *Test and Evaluation*, DHS Instruction 026-06-001 (Oct. 1, 2020).

- **Program managers** have overall responsibility for planning and executing their program's test and evaluation strategies, including scheduling and funding test and evaluation activities and delivering systems for testing. The program manager is also responsible for developing and documenting the program's strategy for test and evaluation in a test and evaluation master plan. A test and evaluation master plan must describe the program's developmental and operational test and evaluation needs to determine technical performance and operational effectiveness, suitability, and resilience.
- **Independent test agents** are responsible for planning, conducting, analyzing, assessing, and reporting on test and evaluation. Their goal is to identify whether a system can meet its KPPs and provide an evaluation of the operational effectiveness, suitability, and resilience of a system in a realistic environment. Operational effectiveness refers to the overall ability of a system to provide a desired capability when used by representative personnel. Operational suitability refers to the degree to which a system can be placed into field use and sustained satisfactorily. Operational resilience refers to the degree to which a system is able to withstand and recover from disruption, including cyber resilience. Independent test agents may be within the component, another government agency, or a contractor, but must be independent of the program manager, end user, and developer.
- **The Director, Office of Test and Evaluation** is responsible for approving independent test agents for major acquisition programs, operational test and evaluation plans, and test and evaluation master plans. As appropriate, the Director is also responsible for overseeing operational test and evaluation, reviewing independent test agent reports, and assessing the reports. Prior to a program's ADE 2C, ADE 3, and other ADEs, as appropriate, the Director provides the program's acquisition decision authority with a letter of assessment. This letter includes an assessment of the adequacy of the test event; an independent evaluation of operational effectiveness, suitability, and resilience; and any further independent analysis.

As an acquisition program proceeds through its life cycle, the testing emphasis moves gradually from developmental test and evaluation to operational test and evaluation. Programs typically conduct operational test and evaluation to support a full-rate production decision at ADE 3. If follow-on operational test and evaluation is required, it is documented at the ADE 3 decision, along with any necessary conditions for that testing and evaluation. In addition to operational test and evaluation, programs must complete an assessment of cyber resilience to inform ADE 3 (see fig. 3).

Figure 3: Test and Evaluation Activities Established by DHS Policy within the Obtain Phase



Source: GAO analysis of Department of Homeland Security (DHS) documents. | GAO-24-106573

Note: Programs must complete an assessment of cyber resilience to inform the acquisition decision event 3 decision.

Selected Programs Are Generally Meeting Current Goals, but Challenges with Cost Growth and Delays Remain

Nearly all of the selected programs with department-approved APBs we reviewed were meeting their current cost and schedule baseline goals as of September 2023. One program was in breach status, and six others either adjusted their baselines due to COVID-19 effects, including inflation or supply chain disruptions, or rebaselined to include additional quantities. The Director, Office of Test and Evaluation, reported that seven programs that had completed operational test and evaluation had met established performance goals. However, among these seven programs, one was not assessed for cyber resilience. The other six have not yet achieved full operational cyber resilience but will continue testing and monitoring. In addition, some programs face ongoing challenges as well as cost and schedule growth.

Fifteen of 16 Programs Met Current Cost and Schedule Goals in Fiscal Year 2023, but Several Face Ongoing Challenges

Of the 16 programs we assessed with department-approved APBs, 15 were meeting their current cost and schedule goals as of September 2023 and one program was in breach status and not meeting its baseline goals. Thirteen of these programs have rebaselined at least once since their initial baselines were established and over half established their current baselines since the end of September 2020. Programs have rebaselined after breaching their baseline goals due to an insufficient understanding of the program requirements and complexity of work to be accomplished, and due to scope changes related to program quantity, expected lifecycle duration, or after receiving additional funding from Congress. See table 2 for the status of each of the 16 programs with department-approved APBs we assessed as of September 2023.

Table 2: DHS Major Acquisition Program Status as of September 2023

DHS component and program	Year of current baseline approval	Meeting current baseline cost and schedule goals
Cybersecurity and Infrastructure Security Agency	2021	Yes
• Continuous Diagnostics and Mitigation (CDM)	2018	Yes
• National Cybersecurity Protection System (NCPS)	2018	Yes
• Next Generation Network Priority Services (NGN-PS) Phase 1		
Management Directorate	2022	No
• Homeland Advanced Recognition Technology (HART)		
Federal Emergency Management Agency	2023	Yes
• Grants Management Modernization (GMM)	2023	Yes
• Integrated Public Alert and Warning System (IPAWS)		
Transportation Security Administration	2021	Yes
• Checkpoint Property Screening System (CPSS)[a]	2022	Yes
• Credential Authentication Technology (CAT)		
U.S. Coast Guard	2022	Yes
• Medium Range Surveillance Aircraft (HC-144B & HC-27J)	2020	Yes
• Offshore Patrol Cutter (OPC)	2021	Yes
• Polar Security Cutter (PSC)[a]	2019	Yes
• 270’ Medium Endurance Cutter Service Life Extension Program (SLEP)[a]		

DHS component and program	Year of current baseline approval	Meeting current baseline cost and schedule goals
U.S. Customs and Border Protection	2021	Yes
• Automated Commercial Environment (ACE)	2019	Yes
• Biometric Entry-Exit (BE-E)	2022	Yes
• Medium Lift Helicopter (MLH)	2021	Yes
• Multi-Role Enforcement Aircraft (MEA)		

Source: GAO analysis of Department of Homeland Security (DHS) data and information. | GAO-24-106573

[a]These programs have not rebaselined since their original baseline was approved by DHS.

During our period of review, the Management Directorate's Homeland Advanced Recognition Technology (HART) program was not meeting schedule goals and was in breach status. Specifically, the acquisition decision authority formally recognized that HART breached its schedule baseline in July 2023 due to continued technical challenges and contributing financial constraints associated with increment 1 development. Since approval of HART's initial acquisition program baseline in April 2016, the program has primarily been in breach status. The program attributed previous breaches to technical challenges and rework resulting from an overly complex, high-risk design, and disagreements between the contractor and program officials on interpretations of program requirements. The program originally planned to deliver all capabilities and reach full operational capability by September 2021. However, after multiple rebaselines and a program restructuring, the planned dates for delivering all planned capabilities have not yet been determined. Officials reported that DHS leadership met in September 2023 to rebaseline the program. The planned date for achieving initial operational capability is expected to slip another 3 years to September 2026 but as of September 2023, DHS leadership had not yet approved a decision memorandum documenting rebaseline decisions. Further, in September 2023, we reported that the Office of Biometric Identity Management developed unreliable cost and schedule estimates for the program.[17]

[17]We found that the program's schedule did not substantially meet three of the four characteristics of a reliable schedule, and the program's cost estimate did not meet any of our cost estimating guide's four characteristics for a high-quality estimate. We made recommendations to DHS to update HART cost and schedule estimates to be consistent with leading practices. See GAO, *Biometric Identity System: DHS Needs to Address Significant Shortcomings in Program Management and Privacy*, GAO-23-105959 (Washington, D.C.: Sept. 12, 2023).

Five Programs Adjusted Baselines due to COVID-19 Effects and One Rebaselined

Of the 15 programs that met current established goals, five requested schedule adjustments at the beginning of fiscal year 2023 ranging from 6 months to 2.25 years to address COVID-19 effects, including labor force reductions and supply chain disruptions. Of the programs with COVID-19 adjustments, two also adjusted their lifecycle cost estimates to address factors related to COVID-19 such as inflation (see table 3).

Table 3: DHS Acquisition Programs that Adjusted Baselines during Fiscal Year 2023 due to COVID-19 Effects

Component	Program	Adjustment made	DHS approval date	DHS reason for adjustment
Federal Emergency Management Agency	Grants Management Modernization	Schedule	November 2022	6-month adjustment to Acquisition Decision Event (ADE) 3 and full operational capability milestones due to unplanned and increased development including configuration of a new grant program under the CARES Act.
	Integrated Public Alert and Warning System	Schedule/cost	November 2022 and July 2023	9-month to 2.25-year adjustments to five milestones including ADE 3 due to supply chain disruptions, as well as extended material lead times and labor shortages. The program also adjusted its cost thresholds and life-cycle cost estimate to reflect inflation effects, development of new training and certification requirements, and an extended operational life.
U.S. Coast Guard	Offshore Patrol Cutter	Schedule	November 2022	6-month adjustment to initial operational test and evaluation and initial operational capability due to travel restrictions that delayed major equipment inspections and increased lead time for parts delivery. Increased cost of cable and contractor labor rates due to inflation. The program planned to adjust its cost thresholds and life-cycle cost estimate, but ultimately did not submit a request to DHS for cost relief.
	Polar Security Cutter (PSC)	Schedule	December 2022	12-month schedule adjustments to lead ship delivery and full operational capability due to contractor's inability to maintain the PSC design schedule. Critical design activities were affected by COVID-19 shutdowns and supply chain disruptions.
	270' Medium Endurance Cutter Service Life Extension Program	Schedule/cost	November 2022 and May 2023	6-month adjustments to five milestones including ADE 2C due to labor force reduction at the Coast Guard Yard and the Naval Sea Systems Command, and supply chain delays. The program adjusted its cost thresholds and life-cycle cost estimate due in part to inflation. The program previously shifted one milestone by 6 months, using the authority previously granted by DHS in October 2020 to adjust Acquisition Program Baseline schedule milestones for COVID-19-related delays.

Source: GAO analysis of Department of Homeland Security data and information. | GAO-24-106573

Note: In April 2023, GAO reported that the Coast Guard's Medium Range Surveillance Aircraft reported anticipating the need for a cost adjustment. The program subsequently determined that no adjustment was needed.

Of the 15 programs that met current established goals, one rebaselined due to a change in program scope. Specifically, U. S. Customs and Border Protection's Medium Lift Helicopter program rebaselined in November 2022 to increase the number of helicopters in service from 20 to 35. Future changes in program scope due to external factors such as changes in funding, policy, or legal requirements that directly impact the program may result in an administrative update to a program's APB rather than a rebaseline following the 2023 update to DHS's acquisition policy.[18]

All Seven Programs That Completed Testing Met Current Performance Goals

Of the 16 programs included in our portfolio analysis, seven successfully completed operational test and evaluation for at least one increment or segment, according to the Director, Office of Test and Evaluation. Operational test and evaluation is to be completed in operationally realistic conditions to determine a system's operational effectiveness, suitability, and resilience, and includes assessment of a programs' key performance parameters. See table 4 for the programs that completed operational test and evaluation and met performance goals.

Table 4: DHS Programs that Completed Operational Test and Evaluation and Achieved Performance Goals in Fiscal Year 2023

Component	Program (and increment or segment, if applicable)	Program completed operational test and evaluation	Program met KPP	Program was assessed for cyber resilience
Cybersecurity and Infrastructure Security Agency	Next Generation Network Priority Services Phase 1 (increment 2)	Yes	Yes	NA --
Federal Emergency Management Agency	Grants Management Modernization[a]	Yes	Yes	Yes

[18]One program obtained approval for an administrative update since the new policy was implemented. Specifically, in May 2023, the Program Accountability and Risk Management office approved the Credential Authentication Technology program's request to update its baseline due to what the office referred to as Congress "realigning" certain funding. See H.R. Doc. No. 50-347, at 1329-30 (2023) (explanatory statement to the Consolidated Appropriations Act, 2023, Pub. L. No. 117-328). While the total amount of funding did not change, the program stated it would have exceeded a baseline threshold for PC&I funding if not for the administrative update.

Component	Program (and increment or segment, if applicable)	Program completed operational test and evaluation	Program met KPP	Program was assessed for cyber resilience
Transportation Security Administration	Checkpoint Property Screening System (increment 1)	Yes	Yes	Yes
	Credential Authentication Technology (CAT) (CAT 2 Upgrade Kit)	Yes	Yes	Yes
U.S. Customs and Border Protection	Automated Commercial Environment	Yes	Yes	Yes
	Biometric Entry-Exit (Air segment)	Yes	Yes	Yes
	Multi-Role Enforcement Aircraft (Air Interdiction)	Yes	Yes	Yes

Legend = ● = program completed testing of at least one segment or increment as of fiscal year 2023; ✓= key performance parameters (KPP) are being met; — = program does not have a cybersecurity related KPP

Source: GAO analysis of Department of Homeland Security (DHS) Director, Office of Test and Evaluation data and information. | GAO-24-106573

[a]The Grants Management Modernization program met 3 of its 4 key performance parameters. In June 2023, DHS approved to defer assessment the program's remaining key performance parameter.

According to the Director, Office of Test and Evaluation, six of the seven programs that successfully completed operational test and evaluation in fiscal year 2023 were also assessed for cyber resilience. None of these six programs achieved full operational cyber resilience. Three of those programs were found to be not cyber resilient and are working on addressing the underlying issues, and are scheduled to conduct follow-on testing in the future. The other three programs are cyber resilient with limitations and will continue to be monitored to mitigate any challenges.[19]

The remaining nine programs in our selected sample have not completed operational testing and evaluation for several reasons. For example, program testing has not begun yet, or testing is ongoing and only a discrete segment of a program had been tested by the end of fiscal year 2023.

Some Programs Face Ongoing Challenges and Two Experienced Significant Cost Growth and Delays

Although only one of the 16 programs in our review was in breach status during fiscal year 2023, some programs face ongoing challenges. For example, the Cybersecurity and Infrastructure Security Agency's Continuous Diagnostics and Mitigation program encountered challenges to conduct operational testing because it requires permission from other agencies to access their networks. In another example, the Federal

[19]We did not identify these programs to protect their information.

Emergency Management Agency's Grants Management Modernization program rebaselined in 2022 due to unplanned and increased development related to the configuration of a new grant program, according to program documentation. For additional examples, see the program assessments in appendix I.

In addition, two of DHS's costliest major acquisitions—the U.S. Coast Guard's Offshore Patrol Cutter (OPC) and Polar Security Cutter (PSC)—experienced significant cost increases and schedule delays. The life-cycle costs for these two programs are $68 billion, about 35 percent of the combined $200 billion in life-cycle costs for the programs in our review.

- **OPC:** The OPC program continues to face significant cost and schedule challenges despite a program restructure in 2020. Program officials have revised the program's APB twice since its initial acquisition baseline in 2012. Since OPC's initial baseline, the program has incurred development and PC&I cost growth of over 40 percent and schedule delays of almost 1.5 years for delivery of the first four cutters. Following significant disruption caused by Hurricane Michael in October 2018, the Acting Secretary of Homeland Security authorized up to $659 million in extraordinary contractual relief to the original contractor in 2019 for the design and construction of up to four OPCs.[20] In addition to granting extraordinary contractual relief, the Acting Secretary further directed that the program recompete the requirement for the remaining 21 cutters.[21] In June 2022, the Coast Guard awarded a contract for ships 5-15, but had not yet formalized goals for this stage of construction at the time of our review.
- **PSC:** Design immaturity continues to be a primary challenge identified by the PSC program. In 2022, we found that the program announced that it amended its schedule baseline to reflect a delayed delivery of

[20]See Pub. L. No. 85-804 (codified as amended at 50 U.S.C. § 1431). Executive Order 10789, as amended by Executive Order 13286, authorizes the Secretary of Homeland Security to grant such relief. This authority allows the Secretary to modify contracts without regard to other provisions of law related to making, performing, amending, or modifying contracts, whenever such action would facilitate national defense. In authorizing relief for the design and construction of up to four OPCs, the Acting Secretary determined that the contractor's continued performance of the OPC contract was essential to national defense. The original OPC contract included options for up to nine OPCs, and OPCs 10 through 25 were to be acquired through a full and open competition.

[21]GAO, *Coast Guard Acquisitions: Offshore Patrol Cutter Program Needs to Mature Technology and Design* [Reissued with revisions on Aug. 1, 2023], GAO-23-105805 (Washington, D.C.: June 20, 2023). For the purposes of this report, we use the agency's terminology of "recompete" to refer to the competitive award of new contracts for OPCs 5 through 25.

the lead ship by more than 2 years, from March 2024 to June 2026, and increased its cost baseline by about 35 percent, from $9.8 billion to $13.3 billion.[22] Factors driving these changes included design modifications by the shipbuilder to meet program requirements and resulting increases in projected operations and maintenance costs based on historical data. The program's cost goals have not changed since the 2021 revision. In December 2022, DHS approved additional delays of 12 months to the program's schedule for six milestones—including lead ship delivery and full operational capability—due to the contractor's inability to maintain the PSC design schedule. The program stated that critical design activities were affected by COVID-19 shutdowns and supply chain disruptions. In July 2023, we reported that designing the PSC has taken over 3 years longer than originally planned due to multiple design- and pandemic-related challenges, thereby delaying the start of construction for the lead cutter, now projected to occur by the end of March 2024.[23] We made two recommendations to DHS and the Coast Guard to address design and schedule risks. DHS concurred with both recommendations.

Agency Comments

We provided a draft of this report to DHS for review and comment. DHS provided technical comments, which we incorporated where appropriate.

We are sending copies of this report to the appropriate congressional committees and the Secretary of Homeland Security. In addition, the report is available at no charge on the GAO website at https://www.gao.gov.

If you or your staff have any questions about this report, please contact me at (202) 512-4841 or masterst@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix III.

[22]GAO-22-104684.

[23]GAO, *Coast Guard Acquisitions: Polar Security Cutter Needs to Stabilize Design Before Starting Construction and Improve Schedule Oversight*, GAO-23-105949 (Washington, D.C.: July 27, 2023).

Travis J. Masters
Director, Contracting and National Security Acquisitions

List of Committees

The Honorable Gary C. Peters
Chairman
The Honorable Rand Paul, M.D.
Ranking Member
Committee on Homeland Security and Governmental Affairs
United States Senate

The Honorable Chris Murphy
Chair
The Honorable Katie Britt
Ranking Member
Subcommittee on Homeland Security
Committee on Appropriations
United States Senate

The Honorable Mark E. Green, M.D.
Chairman
The Honorable Bennie G. Thompson
Ranking Member
Committee on Homeland Security
House of Representatives

The Honorable Dave Joyce
Chairman
The Honorable Henry Cuellar
Ranking Member
Subcommittee on Homeland Security
Committee on Appropriations
House of Representatives

Appendix I: Program Assessments

This appendix presents individual assessments for the 26 Department of Homeland Security (DHS) major acquisition programs we reviewed. Each assessment presents information that is current as of September 2023. The assessments include standard elements such as: an image, a program description, summaries of the program's progress in meeting cost and schedule goals, and key program information such as its contracting approach. Appendix V outlines additional source information for images and figures when that information was not listed adjacent to the image, table, or figure in the assessment. In addition, the assessments provide summaries of the program execution, performance and testing activities, and program management-related issues, as applicable. The information presented in these assessments was obtained from DHS documentation, answers to our questionnaire by DHS officials, and interviews with DHS and program officials. It also includes our analysis of program information. Each assessment includes the following elements:

- **Program description.**
- **Program information:**
  - **Component.** Which of the six components in our scope the program falls under.
  - **Acquisition type.** Whether a capital asset program is for an IT acquisition as defined by DHS, a non-IT acquisition, or a mixed acquisition that include IT and non-IT.
  - **Acquisition level.** Whether a program is level 1—meaning it has a life-cycle cost estimates (LCCE) of $1 billion or more, or level 2—meaning its LCCE is from $300 million to less than $1 billion.
  - **Key performance parameters (KPP).** Provides the breakout of the program's total number of KPPs currently known, by whether the program reported those KPPs as met. If testing for the program's KPPs has not begun, that is stated.
  - **Contracting approach.** Includes high level information and summaries of the kind of contracting activities the program is conducting or planning.

- **Next major milestone.** Indicates the program's next acquisition decision event (ADE) along with the estimated date, if known.

- **Key Findings.**
- **Graphics:**
  - **Schedule.** This figure consists of a timeline that identifies key acquisition decision events or other significant events for the program. The timeline identifies when the program completed or is expected to reach its major milestones as of September 2023. Dates shown are based on the program's acquisition program baseline threshold dates, a signed acquisition decision memo showing completion of an event, or updates provided by the program office. The following milestones are intended to signify:
    - ADE 2A: when a program, or increment, enters into the obtain phase of its life cycle
    - ADE 2B: when a program's initial acquisition program baseline is approved
    - ADE 2C: when low-rate production, or incremental delivery, is approved
    - ADE 3: when full-rate production, or deployment, is approved
    - IOC: initial operational capability, when a major new capability with measurable program benefit is available to the designated user(s). IOC may indicate the success of a set of releases or may test a capability prior to modification and final deployment. This point is defined by the program manager during planning according to the needs of the program.
    - FOC: full operational capability, when a program becomes fully operational, with all functions deployed to the designated user(s), as defined by the program manager.
  - **Acquisition Program Baseline and current estimate.** This figure compares the program's cost thresholds from the initial APB approved after DHS's acquisition management policy went into effect in November 2008 and the program's current DHS-approved APB to the program's expected costs as of September 2023. We used APB documentation and data provided by the program offices to identify the initial and current cost and schedule goals for the programs. Costs shown are based on the program's APB threshold costs and are presented in then-year dollars. DHS's documentation used a mixture of base-year and then-year program costs reflecting DHS policy changes over time. When

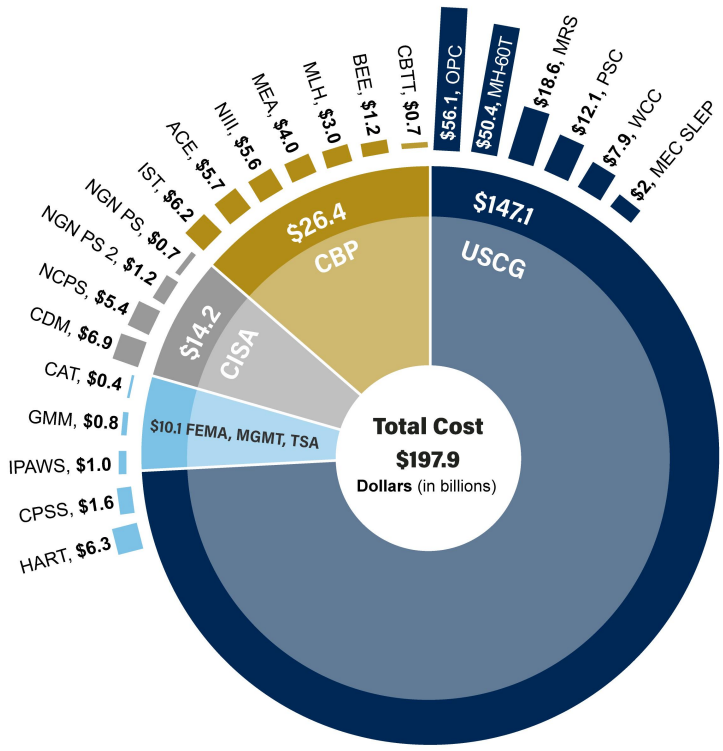
APB costs were presented in base-year dollars, program officials converted them to then-year dollars for the purposes of our report. We did not assess their methodology. The source for the current estimate is the most recent cost data we obtained (i.e., a department-approved LCCE, an updated LCCE submitted during the resource allocation process to inform the fiscal year 2024 budget request, or a fiscal year 2023 annual LCCE update). For consistency in reporting, we use the terms procurement, construction and improvements (PC&I) and operations and support (O&S) when describing costs in these assessments.

- **Program costs for fiscal years (FY) 2024–2028.** This figure provides the program's estimated PC&I, O&S, and total estimated costs for fiscal years 2024–2028.

Lastly, each program assessment summarizes comments provided by the program office and identifies whether the program provided technical comments.

Programs are grouped by component to provide consistency in reporting and ease of use for the reader.

Figure 4: Estimated Life-Cycle Costs for Selected DHS Major Acquisition Programs in Fiscal Year 2023 (data as of September 30, 2023)



DHS Component

CBP	U.S. Customs and Border Protection
CISA	Cybersecurity and Infrastructure Security Agency
FEMA	Federal Emergency Management Agency
MGMT	Management Directorate
TSA	Transportation Security Administration
USCG	U.S. Coast Guard

Program

ACE	Automated Commercial Environment
BEE	Biometric Entry-Exit
CAT	Credential Authentication Technology
CBTT	Cross Border Tunnel Threat
CDM	Continuous Diagnostics & Mitigation
CPSS	Checkpoint Property Screening System
GMM	Grants Management Modernization
HART	Homeland Advanced Recognition Technology
IST	Integrated Surveillance Towers
MEA	Multi-Role Enforcement Aircraft
MEC SLEP	Medium Endurance Cutter Service Life Extension Program
MH-60T	Medium Range Recovery Helicopter
MLH	Medium Lift Helicopter
MRS	Medium Range Surveillance Aircraft
NCPS	National Cybersecurity Protection System
NGN-PS	Next Generation Network Priority Services Phase 1
NGN-PS2	Next Generation Network Priority Services Phase 2
NIII	Non-Intrusive Inspection Integration
OPC	Offshore Patrol Cutter
PSC	Polar Security Cutter
WCC	Waterways Commerce Cutter

Source: GAO analysis of Department of Homeland Security (DHS) information. | GAO-24-106573

Data table for Figure 4: Estimated Life-Cycle Costs for Selected DHS Major Acquisition Programs in Fiscal Year 2023 (data as of September 30, 2023)

Program Long Name	Program_Unique_ID	Current Estimate ($ in Billions)
Automated Commercial Environment	CBP_ACE	5.701
Biometric Entry-Exit	CBP_BEE	1.184
Cross Border Tunnel Threat	CBP_CBTT	.678
Integrated Surveillance Towers	CBP_IST	6.236
Multi-Role Enforcement Aircraft	CBP_MEA	4.041

Program Long Name	Program_Unique_ID	Current Estimate ($ in Billions)
Medium Lift Helicopter	CBP_MLH	3.010
Non-Intrusive Inspection Systems and Integration	CBP_NIII	5.583
Continuous Diagnostics & Mitigation	CISA_CDM	6.875
National Cybersecurity Protections System	CISA_NCPS	5.371
Next Generation Networks Priority Services Phase 1	CISA_NGNPS	.707
Next Generation Networks Priority Services Phase 2	CISA_NGNPS2	1.230
Grants Management Modernization	FEMA_GMM	.814
Integrated Public Alerts & Warning System	FEMA_IPAWS	.976
Homeland Advanced Recognition Technology	MGMT_HART	6.291
Credential Authentication Technology	TSA_CAT	4.12
Checkpoint Property Screening Program	TSA_CPSS	1.626
270' Medium Endurance Cutter Service Life Extension Program	USCG_MEC	2.252
Medium Range Recovery Helicopter	USCG_MH60T	50.409
Medium Range Surveillance Aircraft	USCG_MRS	18.579
Offshore Patrol Cutter	USCG_OPC	56.136
Polar Security Cutter	USCG_PSC	12.131
Waterways Commerce Cutter	USCG_WCC	7.919
U.S. Coast Guard	USCG	141.4
U.S. Customs and Border Protection	CBP	26.4
Cybersecurity and Infrastructure Security Agency	CISA	14.2
Federal Emergency Management Agency	FEMA	1.8
Transportation Security Administration	TSA	2038
DHS Management Directorate	MGMT	6291
	Total	197.9
	FEMA+TSA+MGMT	10119

Source: GAO analysis of DHS information. | GAO-24-106573

Note: Programs included in this analysis were those with an approved life-cycle cost estimate in GAO's scope. Programs can develop an estimated life-cycle cost before they have an approved preliminary acquisition program baseline. The programs in GAO's scope excluded from this analysis either lack an approved estimate or were excluded for other reasons. Those programs excluded are BWSP, COP, EDAMI, and LEP.

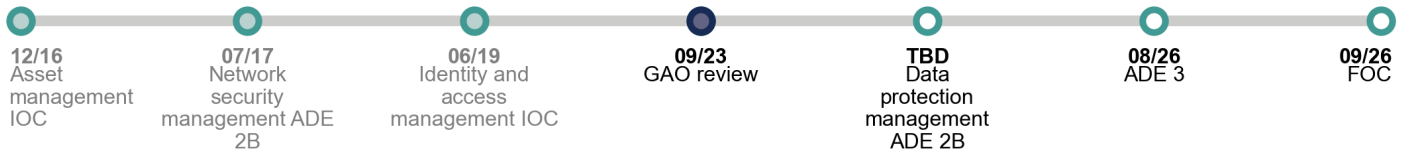
U.S. Coast Guard acquisitions account for 74 percent of all estimated life-cycle costs in our review (see fig. 4). Two U.S. Coast Guard programs account for most of this cost, with the Offshore Patrol Cutter and Medium Range Recovery Helicopter programs accounting for approximately 28 percent and 25 percent of the costs in our review, respectively. U.S. Customs and Border Protection and the Cybersecurity and Infrastructure Security Agency account for the majority of the remaining costs.

Cybersecurity and
Infrastructure Security Agency

Continuous Diagnostics and Mitigation

CDM aims to strengthen the cybersecurity of civilian government networks and data by providing four capabilities to federal agencies: (1) Asset Management reports vulnerabilities in hardware and software; (2) Identity and Access Management focuses on user access controls; (3) Network Security Management will report on efforts to prevent attacks; and (4) Data Protection Management will provide encryption to protect network data. Under CDM, DHS centrally oversees the procurement of cybersecurity tools that can be deployed by participating agencies. CDM is organized into segments for each capability. The first two capabilities have achieved initial operational capability.

Source: CISA. | GAO-24-106573



Program Information

Component: Cybersecurity and Infrastructure Security Agency (CISA)

Acquisition type: IT

Acquisition level: 1

Key performance parameters: Testing of 16 KPPs has not begun

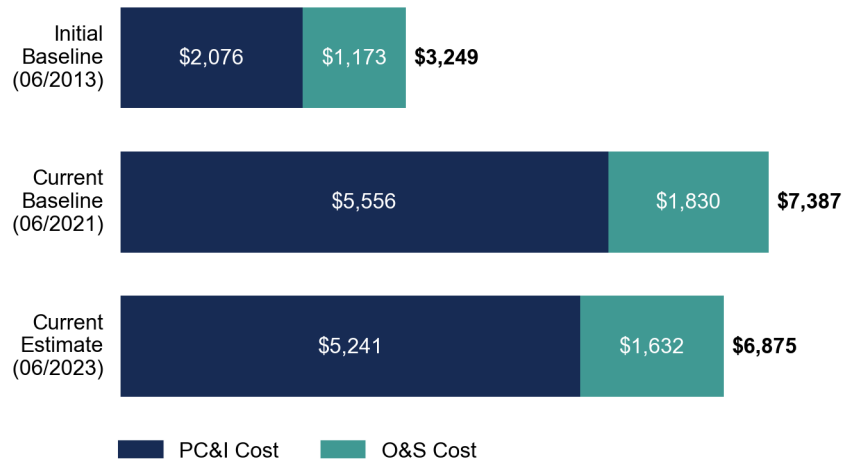
Contracting approach: CDM obtains services from a series of competitively awarded task orders against existing Multiple Award Schedule or government-wide acquisition contracts.

Next major milestone: TBD

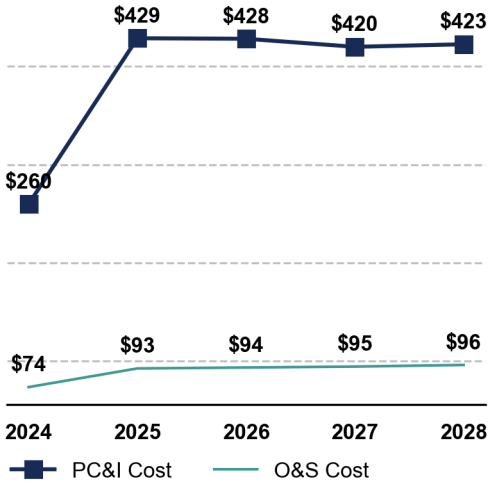
Key Findings

- **Cost and schedule.** CDM remains within cost and schedule goals and on track to achieve full operational capability in 2026. Development of the Data Protection Management capability remains paused as the program focuses on other priorities to include the development of a dashboard for participating agencies and development of Endpoint Detection and Response, a subcapability of Network Security Management.
- **Performance and testing.** CDM had an initial dashboard release in 2022, with developmental testing occurring. The program remains limited in its ability to demonstrate KPPs because it cannot conduct operational testing on other agencies' networks without agency permission.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



CONTINUOUS DIAGNOSTICS AND MITIGATION

Cost and Schedule Status

CDM continues to develop core capabilities as it remains within cost and schedule goals and on track to achieve full operational capability in 2026. The program is currently focused on developing a dashboard and further developing Endpoint Detection and Response, a subcapability of Network Security Management that helps detect malicious network activity in real time and was added last year. In June 2023, CDM updated its program life-cycle cost estimate and showed a $57 million decrease from the prior year. Program officials said this decrease was because of expected budget submissions for fiscal year 2025.

Development of the Data Protection Management capability remains paused. The program originally planned for the capability to achieve ADE 2B in December 2022, but the capability was put on hold due to changes in funding and to focus on other executive priorities. CISA officials said they believed this pause would continue, as the program focused on developing agencies' foundational capabilities, like Asset Management, before the more specialized capability of Data Protection Management.

Performance and Testing

CISA officials said that the program cannot conduct operational testing of its capabilities on other agencies' networks without permission. This limits the program's ability to test KPPs and demonstrate that they are met. CDM officials stated that, as of May 2023, the program did not have permission from any agency to conduct operational testing. CDM officials also stated that if CDM cannot gain access to agency networks for testing purposes, the agencies will assume responsibility for testing CDM provided capabilities on their own networks. However, according to CISA officials, there is no set timeline for that responsibility to switch from CDM to the agencies. CISA officials previously reported that some agencies had conducted operational studies that provided informal observations on CDM implementation. The CDM program is currently working with DHS officials to plan operational assessments of the Identity and Access Management component and the Asset Management component. In late 2022, the CDM program had a dashboard release with the software undergoing developmental testing.

Program Management

CDM documentation is being updated to reflect new program capabilities and overall program growth. CISA officials said they updated their program requirements documents in late 2022 to incorporate new Endpoint Detection and Response subcapabilities. The program is working to update a new concept of operations document that would include the growth in program capabilities since the last version was issued in 2013.

The American Rescue Plan Act of 2021 provided funding to CISA for cybersecurity risk mitigation. CDM officials said the program received funding for specific work. Following this act's passage in May 2021, the President issued Executive Order 14028 on improving the nation's cybersecurity, which CISA officials said included mandated work that programs like CDM had to complete. CISA officials said they had to move staff from previously planned work to perform the new mandates laid out in the executive order, and they intend to operate flexibly to adapt if any requirements are changed or mandates are added. Work on the Data Protection Management capability was paused partially as a result of these changes. As a result of these new mandates, the CDM program added to or expanded existing capabilities to better meet the changed priorities.

GAO reported on the CDM program in August 2020 (GAO-20-598) and made six recommendations to DHS, among others. These recommendations mainly concerned ensuring various agency systems could integrate with CDM capabilities. As of September 2023, one of the recommendations to DHS concerning the integration of Indian Health Service data had not yet been implemented.

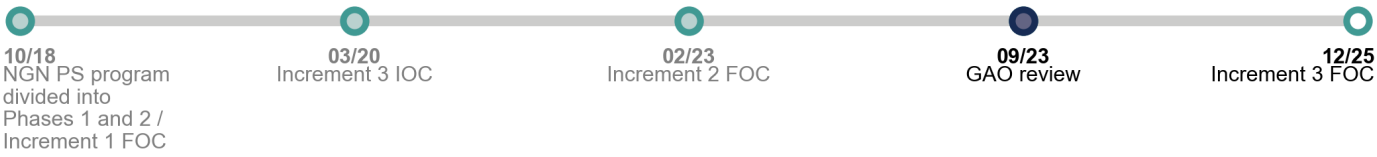
Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate. The CDM program stated that efforts will continue to focus on making CDM an indispensable tool for cybersecurity operations, both in CISA and with partner agencies.

Source: DHS. | GAO-24-106573

Next Generation Network Priority Services Phase 1

NGN-PS aims to develop and enhance emergency telecommunications services to enable public safety personnel to communicate during emergency response and recovery operations. Phase 1 consists of three increments for priority access for: (1) internet protocol core networks; (2) wireless and secure mobile communications over internet protocol; and (3) wired capability over internet protocol. NGN-PS is executed through commercial service providers to ensure priority voice access capabilities for wireless and wireline technologies with secure mobile communications.



Program Information

Component: Cybersecurity and Infrastructure Security Agency (CISA)

Acquisition type: IT

Acquisition level: 2

Key performance parameters: 5 out of 6 KPPs met; testing of the remaining KPP has not begun

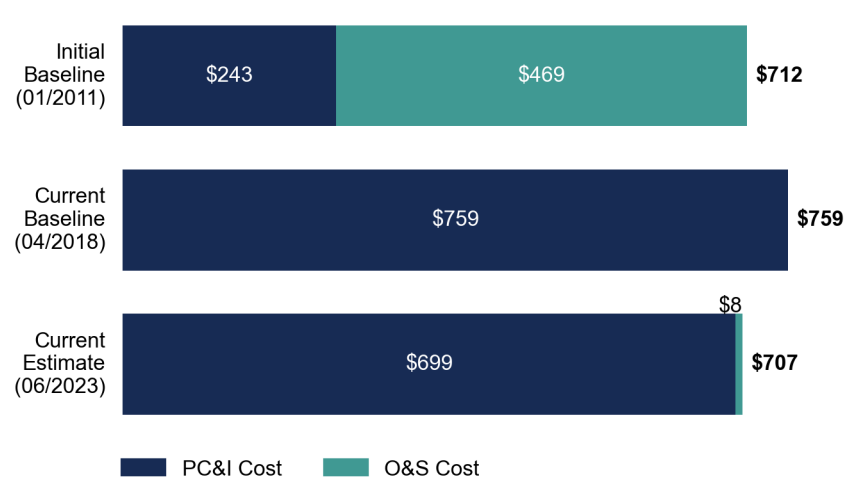
Contracting approach: The program reported having contracts with major telecommunications service providers to deploy priority access features in their public networks. NGN-PS leverages each service provider's deployment schedule for priority services as it transitions voice services from analog to digital.

Next major milestone: Increment 3 full operational capability by December 2025

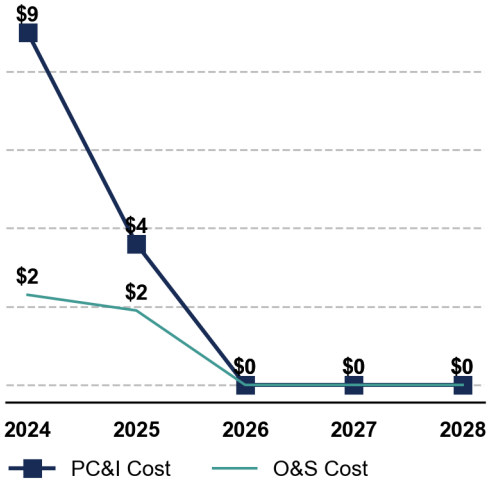
Key Findings

- **Cost and schedule.** The program's current cost estimate is $707 million and remains within its cost baseline goals. As of February 2023, both Increments 1 and 2 have achieved full operational capability. Increment 3 is on track to achieve full operational capability by December 2025, according to the program manager.
- **Performance and testing.** The program reported plans to test and evaluate one remaining KPP for Increment 3 by the end of calendar year 2025. CISA officials said they are determining the appropriate methods to test cyber resiliency.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



NEXT GENERATION NETWORK PRIORITY SERVICES PHASE 1

Cost and Schedule Status

Increment 2 for Phase 1 achieved full operational capability in February 2023 after successful completion of production readiness reviews for each service provider. CISA officials said Phase 1, Increment 3 is on track to meet full operational capability by December 2025, pending the successful completion of operational testing. The program remains within its acquisition program baseline goals.

Phase 1 includes both procurement and operation and sustainment costs until all three increments reach full operational capability. Once operational, acquired capabilities will be transferred to CISA's Priority Telecommunications Service (PTS) program—NGN-PS's predecessor—for sustainment. Both phases of NGN-PS and the PTS are intended to work together to prevent operational gaps in emergency communications. Both NGN-PS programs and the PTS program are part of National Security and Emergency Preparedness Priority Services.

Performance and Testing

Phase 1 has met five of six KPPs. Four of those five KPPs—related to call completion rate, service availability, and meeting user needs—were met as of Phase 1's September 2018 letter of assessment. The fifth KPP for wireless call quality was met in August 2022, which helped achieve full operational capability for Increment 2. The program's KPPs are tracked through monthly performance results and continue to be consistently tested. Phase 1's remaining KPP—wired call quality—is planned to complete testing by December 2025. Initial operational capability for Increment 3 was achieved in March 2020, when wired capability for voice over internet protocol was attained for a single service provider. Increment 3 will achieve full operational capability when all contracted service providers deploy these capabilities over their core networks.

The PTS program evaluates the testing conducted by service providers on their own networks. According to the NGN-PS program manager, this assures consistent PTS operations as NGN-PS capabilities are incorporated. The program focuses on developmental test and evaluation activities such as witnessing and reviewing tests to verify performance, functionality, and operational readiness.

In September 2022, the DHS Director, Office of Test and Evaluation assessed Phase 1, Increment 2, and reported that it was operationally effective and suitable. However, the assessment found that testing was not adequate to evaluate cyber resilience due to issues, such as limitations on the program's ability to test service provider networks. The Director, Office of Test and Evaluation recommended that the independent test agent coordinate with the program office to provide a recommended approach to fully evaluate operational cyber resilience.

Capabilities for NGN-PS are an extension of service provider networks, which are susceptible to cybersecurity attacks. CISA officials reported that service providers have proprietary and confidential cybersecurity efforts, and that it is difficult to obtain sufficient information on how these providers are implementing cybersecurity processes. To mitigate this challenge, CISA officials said they are working with service providers to conduct cyber table top exercises—one of which was completed in May 2023—and have plans to pursue similar efforts for their other contracts.

Program Management

The program faces potential schedule delays if service provider mergers or divestitures occur. CISA officials said most merger or divestiture events occur without advanced notice to the program due to information proprietary to the service providers. To mitigate any potential risks to the program, officials said they continue to identify potential effects of mergers or divestiture events. According to these officials, depending on such events, they will potentially decide to bring in a different carrier to continue to develop NGN-PS capabilities.

NGN-PS Phase 1 has reported that contracts have been awarded to cable providers to support timely achievement of full operational capability for Increment 3.

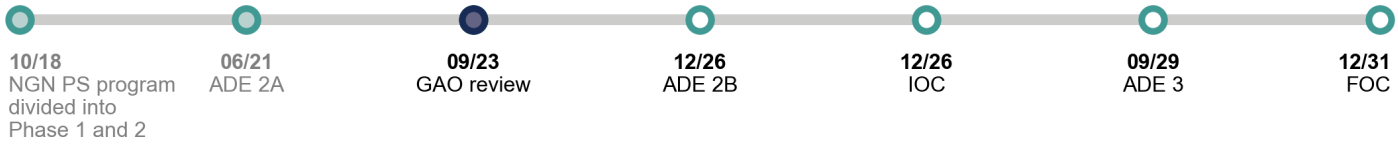
Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.

Source: DHS. | GAO-24-106573

Next Generation Network Priority Services Phase 2

NGN-PS aims to develop and enhance emergency telecommunications services to the national security and emergency preparedness community to communicate during emergency response and recovery operations. Phase 2 expands the capabilities of Phase 1 by developing and delivering data, video, and information services capabilities. Unlike Phase 1, Phase 2 will use a proofs of concept approach to explore service options, alternate technologies, and cybersecurity implications for data and video capabilities. CISA executes NGN-PS through commercial service providers to address the government's requirements as providers modernize their networks.



Program Information

Component: Cybersecurity and Infrastructure Security Agency (CISA)

Acquisition type: IT

Acquisition level: 2

Key performance parameters: Testing of 7 KPPs has not begun

Contracting approach: NGN-PS Phase 2 reported leveraging existing Phase 1 contracts with major service providers. The program is planning for follow-on contracts as the period of performance is ending in fiscal year 2024.

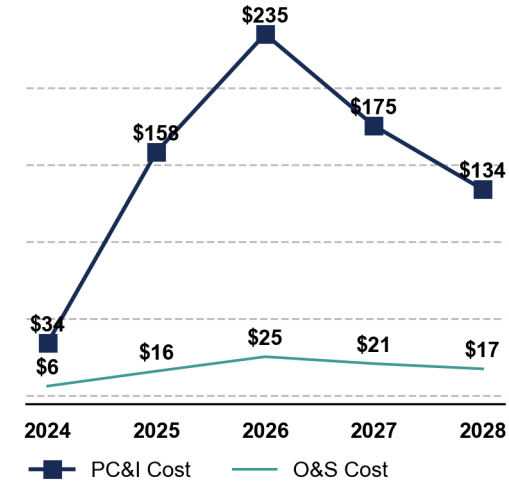
Next major milestone: ADE 2B by December 2026

Key Findings

- **Cost and schedule.** Current cost estimates are at $1.2 billion, but the program will not have an approved baseline until ADE 2B. ADE 2B and full operational capability for NGN-PS Phase 2 will be delayed by 2 years due to funding shortfalls in the 2023 budget request as well as sustained shortfalls expected in future year budgets. CISA officials reported that Phase 2 will receive less than half of the requested funding if the expected fiscal year 2024 budget shortfall occurs.
- **Performance.** The program defined seven KPPs and KPP testing has not begun. NGN-PS Phase 2 is developing proofs of concept and planning to support service provider's future capability development.

BASELINE AND CURRENT COST ESTIMATES dollars in millions

ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



NEXT GENERATION NETWORK PRIORITY SERVICES PHASE 2

Cost and Schedule Status

NGN-PS Phase 2 updated its life-cycle cost estimate for fiscal year 2023, from $756 million to $1.2 billion. Program officials attributed the increase in cost to inflation, an extended schedule, and the addition of another major wireless service provider, among other things. However, Phase 2 is pre-ADE 2B and does not have an approved cost or schedule baseline.

The program received ADE 2A approval in July 2021, but program officials now anticipate a 2-year delay in reaching ADE 2B and full operational capability due to expected funding shortfalls. Specifically, ADE 2B and full operational capability are tentatively extended to December 2026 and December 2029, respectively. According to program officials, the program will address fiscal year 2023 budget shortfalls with available prior year funding; however, it is expected that NGN-PS Phase 2 will continue to experience significant funding shortfalls in fiscal years 2024 and 2025 budget requests. DHS officials expect that shortfalls could reduce the program's scope if not fully addressed.

Performance and Testing

The Phase 2 program has seven KPPs that focus on data communications and audio/video quality that meets mission and user needs, among other things. The test and evaluation strategy for Phase 2 builds on the foundation of processes and relationships developed under NGN-PS Phase 1. Specifically, capabilities will be evaluated through developmental and operational testing conducted by service providers on their networks. The government will provide oversight to verify performance, functionality, and operational readiness.

NGN-PS currently has four proofs of concept to inform aspects of Phase 2 and lay the groundwork for any planned future phases. These proofs of concept ensure that NGN-PS's priorities align with technological advancements to support future capability development by service providers. Each proof of concept has a process that evaluates feasibility and contributions to overall NGN PS Phase 2 goals. The proofs of concept, according to CISA officials, focus on (1) interoperability; (2) cybersecurity; (3) alternative networks, technology, and infrastructure to route around damaged network segments; and (4) real-time service monitoring. CISA officials told us that at least one NGN-PS capability has started testing within each proof of concept.

Program Management

The program's acquisition strategy is designed to achieve cost effective priority services by leveraging commercially owned public communications infrastructure. CISA officials said that service providers decide when to implement NGN-PS capabilities, and CISA's Emergency Communications Division works to align NGN-PS capabilities with each service provider's existing deployment schedule for planned priority data, video, and information services features as they are technologically evolving and advancing (e.g., moving from 4G Long-Term Evolution to 5G capabilities). For example, the Phase 2 program manager said service providers wanted to implement 5G voice first so the NGN-PS program prioritized that capability, which was not originally part of Phase 2.

The NGN-PS Phase 2 program is under the Emergency Communications Division, which program officials said underwent a reorganization that affected subdivisions and staff positions. CISA officials said the reorganization was completed with all staffing vacancies filled. The program management office identified additional staffing needs, and reported that funding for new positions is being requested through the resource allocation process.

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.

National Cybersecurity Protection System

NCPS is intended to defend the systems the federal civilian government uses from cybersecurity threats by developing and deploying capabilities for intrusion detection and prevention, infrastructure, analytics, and information sharing across the government. The NCPS program partially deployed information sharing capabilities. Remaining information sharing capabilities will be deployed under a successor program, Cyber Analytic and Data System (CADS), along with capabilities related to infrastructure and analytics.

Source: NCPS. | GAO-24-106573

Program Information

Component: Cybersecurity and Infrastructure Security Agency (CISA)

Acquisition type: IT

Acquisition level: 1

Key performance parameters: All 12 KPPs were either met, retired, or are planned to be transferred to CADS

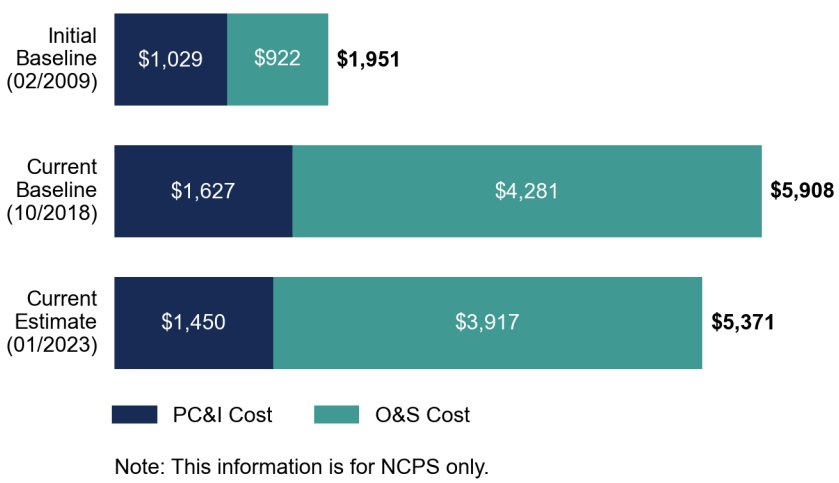
Contracting approach: Program officials said NCPS manages 26 contracts. As NCPS transitions to sustainment, most contracts are expected to be managed by CADS moving forward, while three will be managed by the Chief Information Office, and one contract will end in fiscal year 2025.

Next major milestone: Not applicable

Key Findings

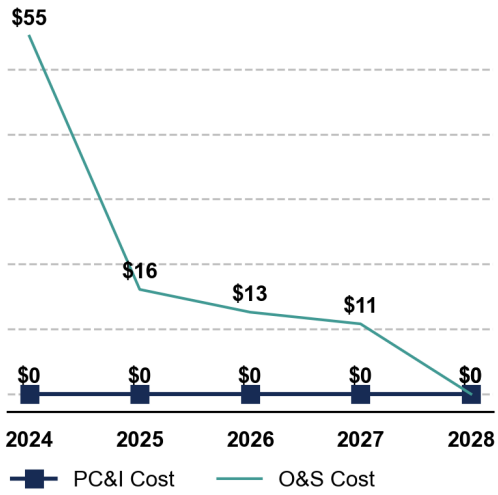
- **Cost and schedule.** After approving full operational capability for NCPS in April 2021, DHS began work on the successor program known as CADS. The programs are in mid-transition, with the NCPS program deciding how associated capabilities will be maintained, replaced, or transferred to the new CADS program. NCPS decreased program life-cycle costs to reflect the transition plan.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



Note: This information is for NCPS only.

ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



NATIONAL CYBERSECURITY PROTECTION SYSTEM

Cost and Schedule Status

After five previous rebaselines, DHS's Acquisition Review Board removed NCPS from schedule breach status in April 2021 and approved full operational capability despite the program having partially deployed information sharing capabilities. That approval was granted with the expectation that CISA would transfer and continue to deploy the remaining information sharing requirements under CADS, the successor program. The NCPS program last breached its schedule in January 2020 as a result of delays experienced while revising its requirements documents. DHS leadership previously directed the program to revise the requirements documents following an operational assessment where DHS's Director, Operational Test and Evaluation found that the program's information sharing capabilities were at risk of not meeting user needs. Other rebaselines were caused by schedule delays, some related to testing, for example, and shifting strategies. The program also reported delays subsequent to bid protests. Through the process of revisiting requirements, program officials determined that a program restructure was necessary to sustain delivered capabilities and address evolving mission needs. In July 2023, DHS designated NCPS a legacy program and CADS a new level 1 program.

According to CISA officials, intrusion detection will remain under the NCPS program for sustainment and operations. Officials added that intrusion prevention is expected to be decommissioned in the first quarter of fiscal year 2024, but there is another capability that is already operational—the Protective Domain Name System—operated by the CISA cybersecurity division. The remaining capabilities—core infrastructure, analytics, and information sharing—are planned to transition to the CADS program. NCPS decreased program life-cycle costs to reflect the transition plan.

Performance Execution

NCPS's APB from October 2018 includes a total of 12 KPPs. Some KPPs changed over time as the program evolved. Among the first four KPPs for intrusion detection and analytics, CISA officials said they retired two due to new CISA capability and technology shifts. Five KPPs related to information sharing will transition to CADS following the decision to grant NCPS full operational capability status. The remaining three KPPs were part of the intrusion prevention NCPS capability, which is now operational. CISA officials said the third KPP related to this capability was tested during operational test events but was retired during the restructure plan to create CADS. We previously reported that the intrusion prevention capability completed follow-on operational test and evaluation and was determined to be cyber resilient with limitations. DHS made several recommendations to CISA to improve the capability. However, CISA officials told us they decided to pause those efforts to award a new contract and restructure. This year, officials reported they will now decommission their effort in favor of the Protective Domain Name System carrying out the capability.

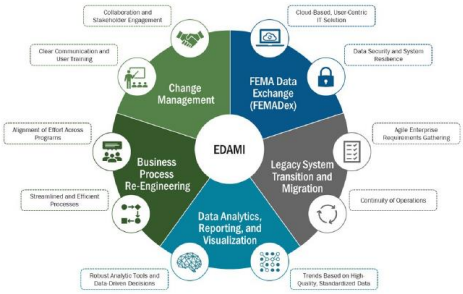
Program Management

After removing NCPS from breach status, declaring full operational capability, and designating NCPS a legacy program, DHS took steps to stand up the CADS successor program. CISA officials reported that challenges related to network architecture and network traffic can be addressed through realignment of the CADS program's services and capabilities. CISA reported that CADS received designation as a Rapid Acquisition Program of Record in July 2023. The approach is intended to expedite fielding of the capability to the user in 2 years by streamlining the standard acquisition life cycle. CADS anticipates holding the first of two ADEs under the rapid approach in spring 2024. According to CISA officials, CADS is still developing several items for the first ADE, including new KPPs as part of a Consolidated Operational Requirements Document and other key acquisition documents. A Consolidated Operational Requirements Document is a rapid acquisitions consolidated requirements document that includes the Capability Analysis Report, Mission Need Statement, Concept of Operations, and Operational Requirements Document.

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.

Federal Emergency
Management Agency



Source: FEMA. | GAO-24-106573

Enterprise Data and Analytics Modernization Initiative

EDAMI aims to increase FEMA's ability to make data-driven decisions to inform disaster preparedness, response, and recovery operations; support field staff, leaders, and partners; and improve outcomes for communities and survivors. The program aims to deliver enterprise analytics capabilities through development of a cloud-based platform called FEMA Data Exchange (FEMADex). FEMADex will integrate over 70 existing data systems and replace the legacy Enterprise Data Warehouse system. The program will employ an Agile development approach to planning, designing, and testing.

07/22	09/23	06/24	03/25	06/26
ADE 2A	GAO review	ADE 2B	IOC	ADE 3/FOC

Program Information

Component: Federal Emergency Management Agency (FEMA)

Acquisition type: IT

Acquisition level: 2

Key performance parameters: Testing of 5 KPPs has not begun

Contracting approach: The program reported awarding multiple contracts in fiscal year 2023, including a firm-fixed-price task order for Agile development and support services placed under an existing government-wide acquisition contract.

Next major milestone: ADE 2B estimated by June 2024

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate. The EDAMI program stated that it remains on track for ADE 2B and has implemented plans to deal with staffing issues.

Current Status

EDAMI achieved ADE 2A in July 2022 and is on track for ADE 2B in June 2024, according to program officials. As the program moves toward ADE 2B, it is conducting a pilot in the FEMA Enterprise Cloud environment. The pilot's focus is on adding the first FEMADex users, demonstrating the value of the system to those users, and refining understanding of user needs to better inform system design. The program aims to complete system design documentation before ADE 2B, including a software preliminary design review planned for April 2024.

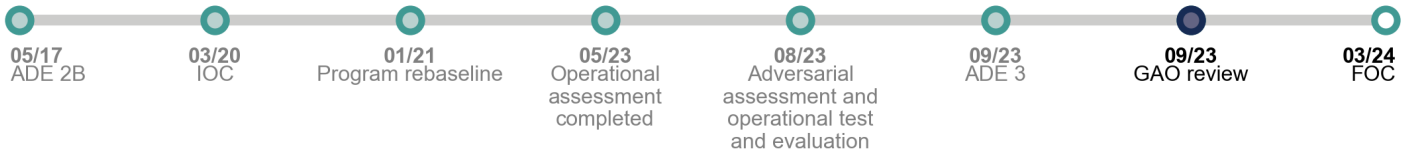
EDAMI currently estimates a total life-cycle cost of $570 million, with the primary cost drivers being staff salaries; software development, maintenance, and licenses; and cloud hosting. FEMA officials explained that lessons learned from other software programs imply the FEMADex program would likely need more software maintenance engineers and as a result, require additional salaries. Officials explained that software maintenance engineers perform tasks like system maintenance and enhancement, and would also connect any new future FEMA systems to FEMADex.

The EDAMI program is working to mitigate ongoing program issues. Issues the program documented in its risk register include staffing issues and the complicated integration of multiple FEMA data systems. FEMA officials explained that the EDAMI program has multiple vacancies for software engineers and data engineers, and that staffing gaps could result in schedule delays. They noted that they are working to mitigate this challenge and bring more staff onboard. Another documented issue is the challenge of integrating initial FEMA data systems into FEMADex. System integration is part of the EDAMI program's full operational capability, which will eventually include over 70 FEMA data systems. The program is working to mitigate this issue through early planning and coordination with other FEMA data system owners to lessen schedule delays.

Grants Management Modernization

GMM aims to integrate FEMA's grant programs into one unified system, FEMA Grants Outcomes (FEMA GO). GMM plans to establish a common grants life cycle and platform for its users, replacing nine legacy systems used to manage over 40 active grant programs. This integrated approach intends to improve the oversight and monitoring of funding allocations and support integrated data analytics across program areas to improve efficiency. The creation of this system supports FEMA's strategic goals to strengthen national preparedness and resilience in support of citizens and first responders.

Source: FEMA. | GAO-24-106573



Program Information

Component: Federal Emergency Management Agency (FEMA)

Acquisition type: IT

Acquisition level: 2

Key performance parameters: 3 of 4 KPPs met

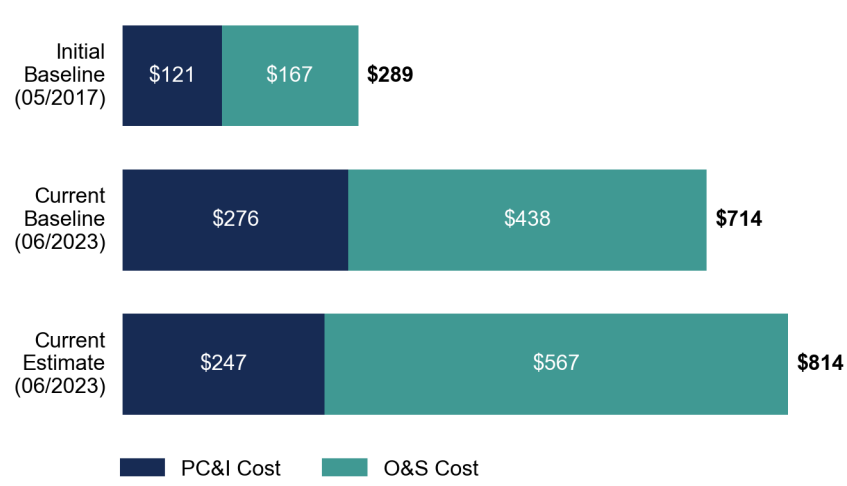
Contracting approach: GMM is part of a DHS Agile pilot program that uses an iterative acquisition and development approach. The program reported using mostly firm-fixed-price contracts because of the reduced cost risk to the government. The program allows for the use of other contract types based on analysis and vendor feedback.

Next major milestone: full operational capability by March 2024

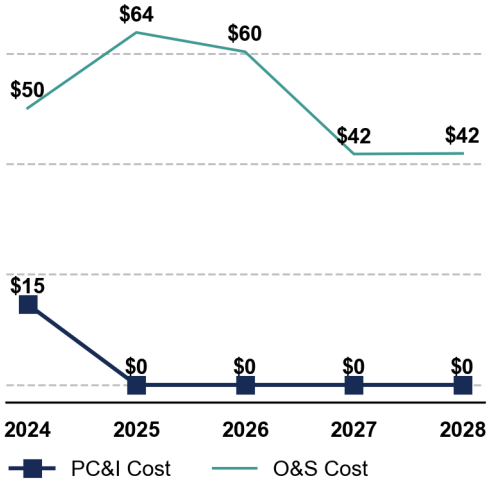
Key Findings

- **Cost and schedule.** GMM achieved ADE 3 in September 2023 and is working to achieve full operational capability in March 2024. Estimated program life-cycle costs increased to $814 million, with the majority of increases resulting from extending the last year of cost projections from 2030 to 2034.
- **Performance and testing.** The program completed testing for three of its four KPPs as of August 2023. The final KPP related to scalability, the ability of the program to handle increased user demand, will not be tested until post-ADE 3. This is because more grant programs are planned to be added to the FEMA GO system in late 2023 when a significant number of users will begin to use the system.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



GRANTS MANAGEMENT MODERNIZATION

Cost and Schedule Status

GMM has experienced significant cost growth and schedule delays. When the program rebaselined in January 2021, it more than doubled its approved baseline from $289 million to $714 million. The program's current life-cycle estimate also increased, going from $625 million in June 2022 to $814 million in June 2023. This was mostly due to adding 4 years to the estimated O&S life cycle, extending the end of the life cycle from fiscal year 2030 to fiscal year 2034. GMM officials explained this extension was to comply with updated DHS policy that now requires program life-cycle cost estimates cover 10 years after the program achieves full operational capability.

The program has also experienced multiple schedule delays and now plans to achieve full operational capability by March 2024, 3.5 years later than the initially planned date of September 2020. Most of that delay resulted from the program's 2021 rebaseline. The remaining 6 months were added in November 2022 following DHS's 2022 memorandum allowing for baseline adjustments related to COVID-19. According to program documentation, the November 2022 schedule baseline adjustment was due to unplanned and increased development, including the configuration of a new grant program under the CARES Act. That adjustment resulted in program milestone dates for ADE 3 and full operational capability shifting to September 2023 and March 2024 respectively. Based on the program's definition, full operational capability will occur with the deployment of all grants management life-cycle phases—from grant pre-award to closeout—and business functions needed to support all grant types.

Performance and Testing

The program has four KPPs related to cybersecurity, reliability, scalability, and resilience to technical failures. In August 2023, the program met the cybersecurity, reliability, and resilience KPPs. The program requested and was given a deferral on testing the final KPP related to scalability until after ADE 3. Program officials explained this deferral was because the FEMA GO system will not have a significant number of users until the first three grant programs are added at the end of 2023.

In addition to measuring system performance through testing and evaluation of its KPPs, the program also tracks user satisfaction and performance through seven business goals that it hopes to meet before reaching full operational capability. Program officials said these goals are considered to be essential outcomes that indicate whether the GMM solution has successfully met critical, business-focused mission needs, including ease of use and the extent to which user needs are met.

Program Management

FEMA officials stated that the program is fully staffed and turnover is low. This includes eight positions for help desk support. The program previously reported that staff had not generally been certified to the required levels, but program officials stated that, as of June 2023, all staff were meeting requirements.

In April 2019, GAO made eight recommendations to FEMA to address risks identified with GMM. As of September 2023, all eight recommendations had been implemented and closed. For additional information, see GAO-19-164.

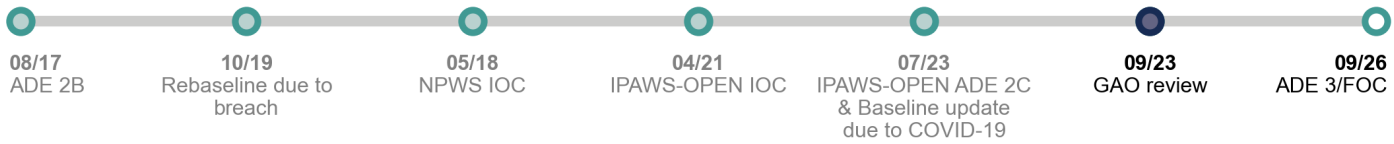
Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate. The GMM program said that it will test the full disaster grants life cycle and assess the scalability KPP before transitioning to sustainment after achieving full operational capability in March 2024.

Integrated Public Alert & Warning System

IPAWS is a national system for local alerting and warning capabilities in situations of war, natural disaster, or other hazards to public safety. Discrete Segment 1 is delivered and operational. The program is currently focused on Discrete Segment 2, which is comprised of two primary efforts: (1) migrating the infrastructure that routes alert messages to wireless, radio, television, and internet alert systems to an optimized cloud service (IPAWS-Open Platform for Emergency Networks, or IPAWS-OPEN); and (2) modernizing and enhancing radio stations in the National Public Warning System (NPWS), which provides the president access to all television and radio stations for national emergency warnings. Our assessment focuses on Discrete Segment 2.

Source: FEMA. | GAO-24-106573



Program Information

Component: Federal Emergency Management Agency (FEMA)

Acquisition type: Mixed (IT/non-IT)

Acquisition level: 2

Key performance parameters: 1 out of 3 KPPs met (2 tested, 1 not yet tested)

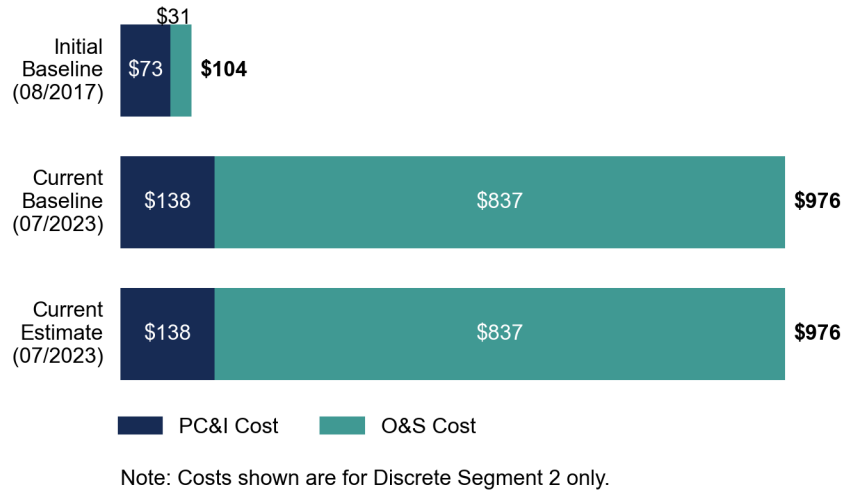
Contracting approach: The program reported using a variety of contract vehicles including DHS and General Services Administration contracts for testing activities and to purchase satellite bandwidth.

Next major milestone: ADE 3 by December 2026

Key Findings

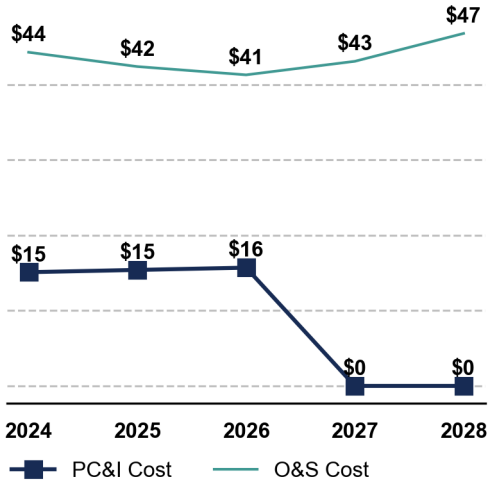
- **Cost and schedule.** In July 2023, DHS approved the program's request to delay schedule milestones for the modernization of NPWS shelters at radio stations by 2 years due to COVID-19 effects. The program also adjusted its cost baseline to reflect increased costs for station modernization and additional costs for implementing new alerting authority training requirements. IPAWS-OPEN achieved ADE 2C in July 2023.
- **Performance and testing**. IPAWS-OPEN program officials assess the system's availability performance annually. The system met key availability goals in 2021 but did not meet them for fiscal years 2022 and 2023. Formal testing is in progress for both the NPWS and IPAWS-OPEN, including National Periodic Tests.
- **Program management**. The program is monitoring a risk that participating radio stations may shut down, and mitigating a risk created by unfilled technical staff positions.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



Note: Costs shown are for Discrete Segment 2 only.

ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



INTEGRATED PUBLIC ALERT & WARNING SYSTEM

Cost and Schedule Status

IPAWS Discrete Segment 2 established its initial baseline in 2017. Since then, the program adjusted its schedule milestones at least twice. In July 2023, DHS leadership approved an APB adjustment that delayed several planned program milestones, including delaying NPWS radio station modernizations by 2 years due to COVID-19-related effects. FEMA officials stated that several NPWS shelters had to meet local building and environmental requirements, and that one modernization took 3.5 years because state permitting offices were closed. FEMA uses shelters built at commercial radio stations to broadcast NPWS alerts. IPAWS Discrete Segment 2 is modernizing 36 NPWS shelters (including 33 legacy shelters) with improvements including protection from High Altitude Electromagnetic Pulse (HEMP) events. In 2018, NPWS station modernization achieved initial operational capability.

In July 2023, DHS approved the ADE 2C for IPAWS-OPEN after reviewing operational test results and discussing the program's ongoing efforts to mitigate availability issues prior to the suitability determination at ADE 3. IPAWS-OPEN achieved initial operational capability in April 2021, following successful migration from DHS servers to an optimized cloud environment. This milestone previously shifted by 21 months in a 2019 rebaseline and breach caused by changes in the program's cloud migration strategy. Full operational capability will occur when both IPAWS-OPEN and NPWS complete modernization and meet performance goals.

IPAWS updated its life-cycle cost estimate in 2023, increasing it $273 million (48 percent) from the 2022 estimate. The program attributed the growth to factors such as extending the program's expected operational life by 2 years to fiscal year 2036. Additional factors include a 60 percent increase in per-station NPWS modernization costs, and the program's development of new IPAWS local alerting authority training and certification requirements as directed by Congress in the National Defense Authorization Act for Fiscal Year 2020. The updated cost estimate includes funding received in 2022 and 2023 to address these requirements.

Performance and Testing

The IPAWS Discrete Segment 2 availability goal is assessed annually. IPAWS-OPEN first met its target availability in 2021; however, the program failed to meet this goal during fiscal year 2022 because of a longer-than-planned DHS network outage. IPAWS-OPEN also did not meet the availability goal in fiscal year 2023. The program experienced additional outages of 9.5 hours due to a DHS-wide network failure and other downtime. FEMA officials are working with DHS's IT engineering division to mitigate this issue, which will be included in the ADE 3 evaluation of operational suitability. IPAWS officials estimate that a solution could cost up to $80,000 a year to implement.

The two primary IPAWS efforts for Discrete Segment 2 have ongoing test activities. NPWS began its operational test and evaluation in August 2021, following a national periodic test event and operational test and readiness review. FEMA officials said the upgraded shelters exceeded expectations during HEMP testing in May 2021. Program officials conducted a nationwide test of IPAWS-OPEN radio and wireless alerts in October 2023. The independent test agent planned to collect data during that test and report timeliness and population coverage performance results in 2024. The program's independent test agent completed initial testing of IPAWS-OPEN in March 2023 and stated that the system met requirements for reliability, maintainability, availability, and operational cyber resiliency. The program and independent test agent determined that disruptions caused by DHS network failures were not chargeable against IPAWS-OPEN's availability assessment because they were outside the scope of system under test, which consists of the components owned and operated by the IPAWS program.

Program Management

IPAWS is monitoring a risk that participating NPWS radio stations will potentially relocate or shut down. If this occurs, IPAWS must remove onsite equipment and identify and modernize a new location. This risk could hinder the program's ability meet its baseline cost, schedule, and performance parameters.

IPAWS-OPEN experienced an unprecedented increase in usage from 2020 to 2023 in response to the COVID-19 pandemic and civil unrest events. Twice as many state, local, tribal, and territorial agencies used IPAWS in 2020 than in 2019, and 182 percent more alerts were sent to the public. FEMA officials stated their goal is to ensure that all state, county, tribal, and territory governments have access to IPAWS.

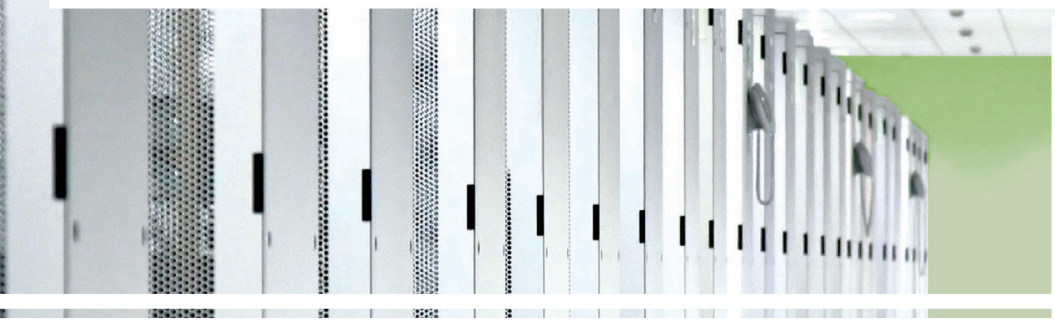
The program is mitigating staffing shortfalls. As of June 2023, IPAWS is filling six acquisition positions with contracted support. In addition, IPAWS is in the process of staffing four new federal positions with 2023 funding.

Program Office Comments

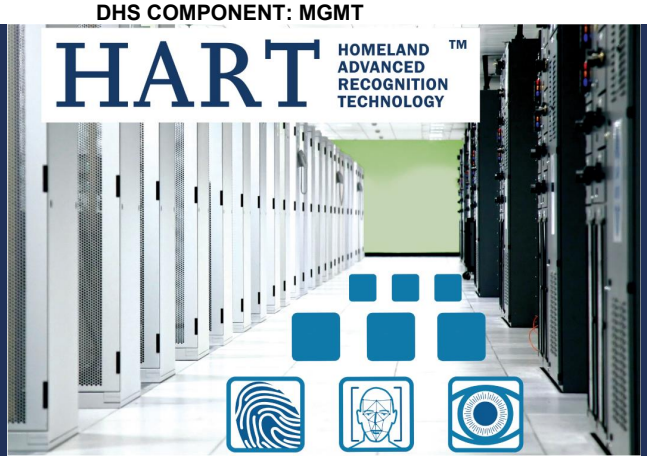
We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate. The IPAWS program stated that FEMA remains dedicated to the success of IPAWS, and will continue to monitor and mitigate factors outside of FEMA's control.

HART

HOMELAND ADVANCED RECOGNITION TECHNOLOGY™



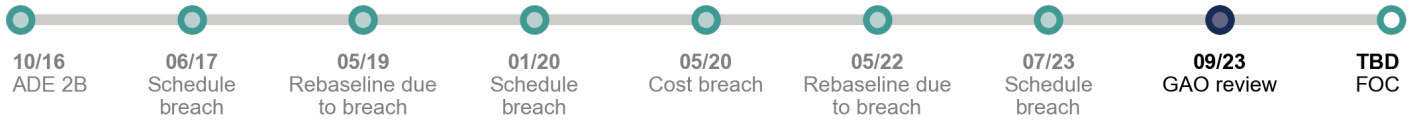
Management Directorate



Homeland Advanced Recognition Technology

HART is intended to replace DHS's legacy Automated Biometric Identification System (IDENT) that stores, processes, and shares biometric information on citizens and foreign nationals with the U.S. government and foreign partners to support legitimate travel, trade, and immigration. HART is expected to facilitate visa issuance, law enforcement actions, and intelligence analyses, among other functions. It is also expected to provide capabilities to match, store, and share information on multiple biometrics (fingerprints, face, and iris). The program is focused on increment 1—the core operating infrastructure. Future capabilities will be addressed after HART is fielded and IDENT is decommissioned.

Source: Office of Biometric Identity Management. | GAO-24-106573



Program Information

Component: Management Directorate

Acquisition type: IT

Acquisition level: 1

Key performance parameters: Testing of 9 KPPs has not begun

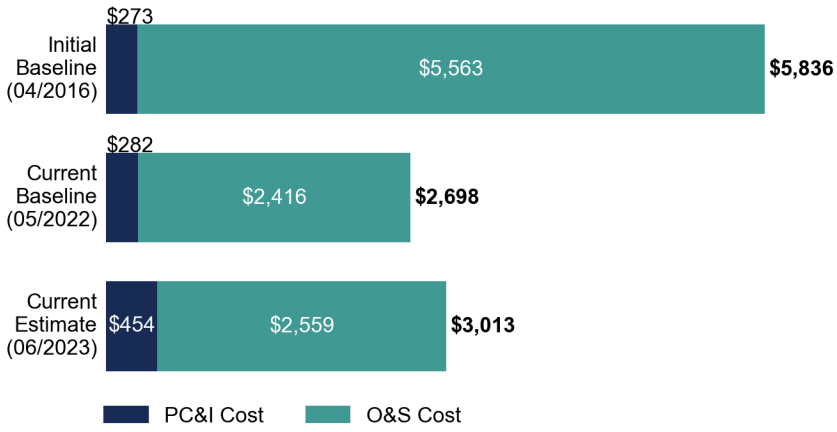
Contracting approach: The program's original task order, awarded in 2017, included firm-fixed-price line items, among others. In 2021, the contract was modified to include more cost reimbursable line items, to address issues with the prioritization of work.

Next major milestone: Rebaseline TBD

Key Findings

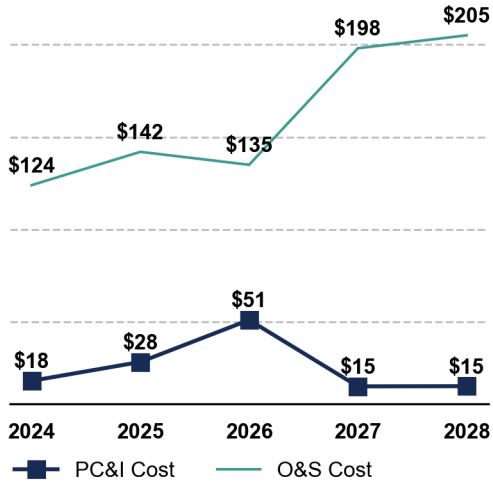
- **Schedule.** In July 2023, the acquisition decision authority formally recognized that HART was in schedule breach status. DHS officials attributed the breach to continued technical challenges and contributing financial constraints associated with increment 1 development. Under the current baseline approved in May 2022, initial operational capability was shifted to September 2023, nearly 5 years from the original baseline for reduced capabilities. HART's current acquisition program baseline is focused on increment 1 while its original baseline covered all planned capabilities. The date for fielding HART has not yet been determined.
- **Performance and testing.** At the November 2022 operational test readiness review, the program was deemed insufficiently mature to begin the operational assessment.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



Note: Current baseline includes increment 1 costs and previously expended increment 2 costs.

ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



HOMELAND ADVANCED RECOGNITION TECHNOLOGY

Cost and Schedule Status

Since approval of HART's initial acquisition program baseline in April 2016, the program has primarily been in breach status. HART program officials attributed a 2017 schedule breach to contract-related delays. The HART program declared a second schedule breach in January 2020 and a cost breach in May 2020. The program attributed these breaches to technical challenges and rework resulting from an overly complex, high-risk design, and disagreements between the contractor and program officials on interpretations of program requirements.

After two rebaselines, the acquisition decision authority recognized that HART was in schedule breach status in July 2023. DHS officials attributed the breach to continued technical challenges and contributing financial constraints associated with increment 1 development. HART's current baseline was approved in May 2022 and covers increment 1—the infrastructure necessary to operate HART as the biometric services system of record. Under this baseline, initial operational capability was scheduled for September 2023, nearly 5 years later than originally planned. Program initial operational capability marks the delivery of HART as the system of record and the decommissioning of the legacy IDENT system. The program originally planned to deliver all capabilities through four increments and reach full operational capability by September 2021.

The program will address and baseline its future capabilities in a separate acquisition program baseline revision following achievement of initial operational capability. A revised date for reaching full operational capability for increment 1 and future capabilities has not yet been determined. The current acquisition program baseline cost focuses on increment 1 and is not comparable to the initial baseline estimate approved in 2016.

Delays in delivering planned capabilities and continued reliance on IDENT represent a significant challenge to meeting user needs for DHS and its partner agencies, which include other federal agencies, state and local law enforcement agencies, and the international community. Continued reliance on an overextended IDENT system represents an ongoing risk as the legacy system risks failure and additional investments are necessary to keep the system operational.

Further, we reported in September 2023 that the HART program's 2022 cost and schedule estimates did not fully follow GAO-identified characteristics of a high-quality, reliable cost or schedule estimate. Reflecting this, we recommended that DHS update HART cost and schedule estimates to be consistent with these leading practices. For additional information, see GAO-23-105959.

Performance and Testing

The program planned to begin the operational assessment in 2022 to determine HART's progress toward meeting core capabilities including operational effectiveness, suitability, interoperability, and resilience. At the operational test readiness review held in November 2022, program officials determined that the program was not mature enough to begin the operational assessment. HART completed large-scale developmental testing during 2023; however, results from the testing of two KPPs have not yet been validated through operational testing. In discussing the breach, program officials told us that the rebaseline process might involve revisions to the HART testing plan.

Program Management

HART program officials identified steps they have taken to get the program back on schedule. In September 2021, DHS modified the HART task order contract type. Certain work previously performed under firm-fixed-price line items is now being done on a cost-reimbursable basis. According to HART program officials, having subject matter experts from the federal government assume the role of product owner will allow the program to set priorities more effectively, decide on success criteria, and drive the remaining development and testing activities. The September 2021 contract modification also removed increment 2 and post-deployment requirements. In October 2022, the federal government assumed the role of lead integrator and directed the contractor to improve developmental processes and performance gaps. In February 2023, in response to the continuing challenges to increment 1, DHS established a working group to develop a path forward for the program. In April 2023, the working group reported back with various proposals for improving HART's program management approach and structure, some of which are undergoing implementation.

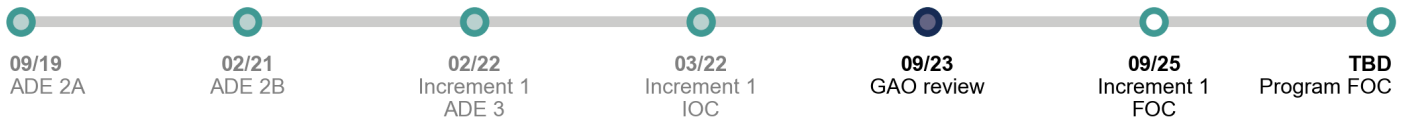
Program Office Comments

We provided a draft of this assessment to the program office for reivew and comment. The program office provided technical comments, which we incorporated where appropriate. Program officials stated that the acquisition decision authority approved the program's removal from breach status on September 28, 2023, and this decision was formalized in October 2023. Officials also reported that they revised the program costs and the initial operational capability date is now planned for September 2026.

Transportation Security Administration

Checkpoint Property Screening System

CPSS is to replace aging, two-dimensional Advanced Technology (AT) x-ray machines that are used as the primary screening system for passenger carry-on items at airport checkpoints. CPSS officials plan to incrementally procure 2,263 systems with enhanced capabilities, including computed tomography (CT), which provides three-dimensional imaging and improved detection of explosives, weapons, and other prohibited items. CPSS officials are procuring the systems in four configurations—AT/CT, base, mid-size, and full-size—to provide flexibility at airport checkpoint facilities with varying sizes and passenger volumes. The program is focused on procuring and deploying increment systems, and implementing upgrades to fielded systems.



Program Information

Component: Transportation Security Administration (TSA)

Acquisition type: IT

Acquisition level: 1

Key performance parameters: 4 out of 4 KPPs met

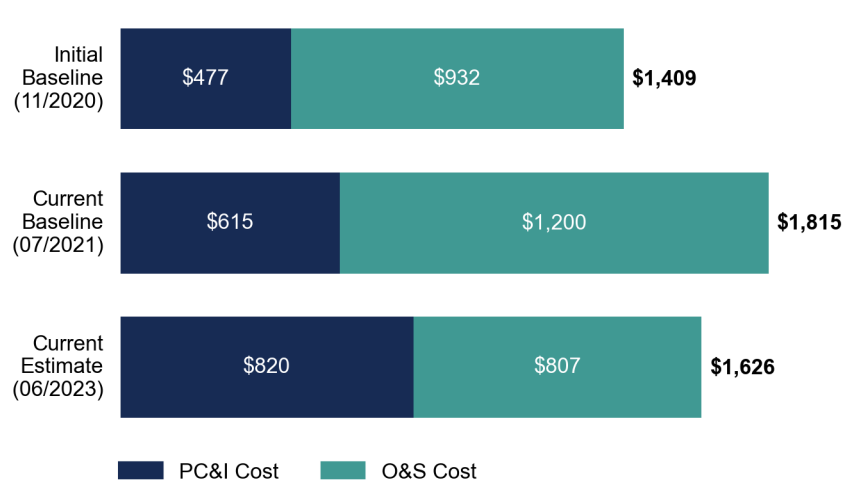
Contracting approach: The program reported using various contracts for modified commercial solutions with vendor custom-developed software, including firm-fixed-price orders.

Next major milestone: Full operational capability for increment 1 by September 2025

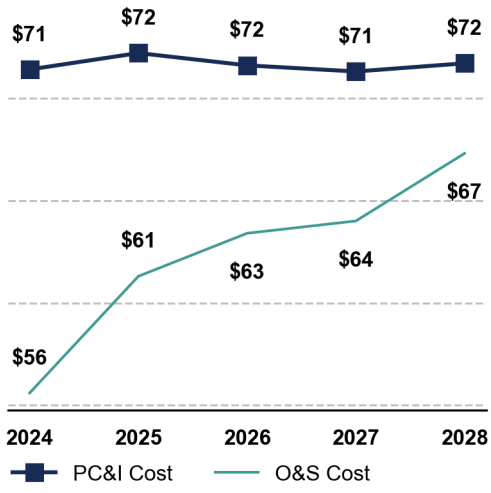
Key Findings

- **Cost and schedule.** CPSS achieved increment 1 initial operational capability in March 2022. As of September 2023, according to program officials, CPSS deployed 781 of 910 systems needed to reach increment 1 full operational capability, which is scheduled for September 2025. CPSS officials are planning for increment 1 upgrades that are expected to provide the systems with enhanced detection, system optimization, and networking/cybersecurity capabilities. The program plans to develop cost and schedule goals for deploying a total of 2,263 systems incrementally.
- **Testing and qualification.** According to program officials, the program has demonstrated through testing that 11 systems (one AT/CT, two base, four mid-size, and four full-size) have the capability to replace currently fielded systems. They expect to complete operational test and evaluation on the final two systems in the qualification process by December 2023.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



CHECKPOINT PROPERTY SCREENING SYSTEM

Cost and Schedule Status

CPSS continues to make progress deploying increment 1 systems. In March 2022, CPSS achieved initial operational capability for increment 1, and the program plans to achieve full operational capability—deployment of 910 systems—by the end of September 2025. As of September 2023, CPSS had deployed 300 AT/CT systems, 316 mid-size systems, 115 base systems, and 50 full-size systems. The overall program schedule for deploying all 2,263 CPSS systems is still not determined.

Planning for increment 1 upgrades is ongoing. According to program officials, they are developing enhancements and new capabilities that will be prioritized into three upgrade paths: enhance detection, system optimization, and networking/cybersecurity. These officials stated CPSS will develop these capabilities incrementally. These upgrades aim to provide a foundation for improved security and efficiency in the accessible property screening and overall checkpoint environments.

CPSS officials plan to conduct an additional ADE 3 for each increment to update cost and schedule based on planned quantities and system configurations. TSA officials reported that the current life-cycle cost estimate for increment 1 reflects a significant decrease in per-unit cost over the original estimate for each of the base, mid-size, and full-size systems, enabling them to increase the number of increment 1 full operational capability units from 771 to 910.

Testing and Qualification

All four KPPs have been met for increment 1. According to CPSS officials, a total of 11 configurations have been qualified through testing and demonstrate the capacity to replace currently fielded systems (one AT/CT, two base, four mid-size, and four full-size). These officials noted that the additional qualified systems help to mitigate concerns about throughput and reliability that we reported on last year. Seven of the 11 configurations now meet throughput requirements, five configurations meet reliability requirements, and 10 meet operational availability requirements. As of September 2023, CPSS officials expect to complete operational test and evaluation for the last two systems in the qualification process by December 2023.

Program Management

Incremental capability enhancements are intended to be deployed throughout the life of the CPSS program. TSA research and development and industry technology readiness will both determine these enhancements. The CPSS program has a process in place to qualify vendors to be eligible for contract awards for systems of the four different configurations that are deemed operationally effective, suitable, and cyber resilient for each increment. Once vendors are deemed qualified, they can compete on solicitations. CPSS officials told us that, as of September 2023, 11 systems from four vendors have been qualified.

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.

Credential Authentication Technology

The CAT system has three functions that together authorize a passenger to enter the protected area of an airport: authenticate a passenger's identity document (ID), confirm a passenger's flight reservation, and verify a passenger's prescreened security status. The program plans to add new capabilities, through upgrade kits to deployed CAT units or new CAT-2 units. These capabilities include facial biometric verification to confirm that the presenter of the ID is the person represented by the ID, authentication of digital IDs, and a self-service capability for individuals to present their own IDs. The program is currently focused on increment 1 of four total increments.

- **03/14** ADE 2B/2C
- **08/23** ADE 3 (CAT base unit upgrades)
- **09/23** GAO review
- **10/23** Increment 1 IOC
- **03/24** ADE 3 (CAT-2 production units)
- **09/25** Increment 2 IOC
- **09/49** Increment 4 FOC

Program Information

Component: Transportation Security Administration (TSA)

Acquisition type: IT

Acquisition level: 2

Key performance parameters: 4 of 4 KPPs met

Contracting approach: TSA is procuring upgrade kits for deployed base CAT units using a firm-fixed-price delivery order. The program awarded an indefinite-delivery, indefinite-quantity contract to produce new CAT-2 units.

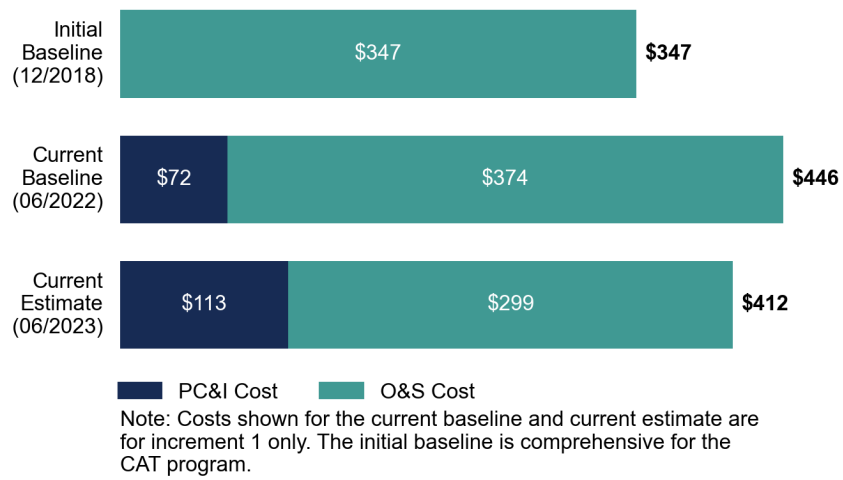
Quantity: 3,585 units consisting of 2,054 upgraded units and 1,531 new CAT-2 units

Next major milestone: Increment 1 initial operational capability by October 2023

Key Findings

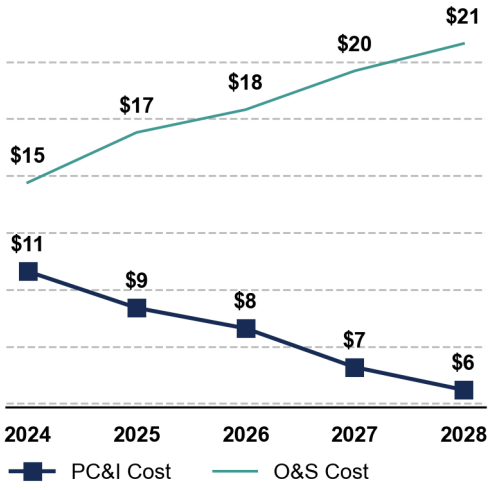
- **Cost and schedule.** In April 2023, TSA awarded an indefinite-delivery, indefinite-quantity contract for CAT-2 production units and issued a firm-fixed-price delivery order for a single CAT-2 prototype unit, which was delivered by the contractor in August 2023. TSA achieved ADE 3 for the upgrade kits in June 2023 and ADE 3 for the CAT-2 production units is anticipated by March 2024. Installations for increment 1 initial operational capability took place in September 2023 and estimated life-cycle costs for that increment remain largely unchanged from last year at $412 million.
- **Performance.** The program's May 2023 initial operational test and evaluation report concluded that CAT upgrade kits met each of the four KPPs. The test and evaluation report also identified areas where limitations on the suitability and cyber resilience of the program might pose risks, and made recommendations to address these risks prior to reassessing them through follow-on test and evaluation.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



Note: Costs shown for the current baseline and current estimate are for increment 1 only. The initial baseline is comprehensive for the CAT program.

ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



CREDENTIAL AUTHENTICATION TECHNOLOGY

Cost and Schedule Status

In June 2022, the CAT program rebaselined to add new capabilities, including facial recognition verification, to address operational gaps and improve performance. The rebaseline also increased the quantity of deployed systems from 1,520 to 3,585. Compared to the full original baseline, increment 1 comprises slightly fewer units at a slightly higher cost, but with the additional planned capabilities.

The rebaselined CAT program is planned for four increments comprising two separate configurations: (1) upgrade the 2,054 base CAT units that are already deployed with the new configuration, and (2) produce and deploy 1,531 new CAT units, referred to as CAT-2s. Increment 1 includes both upgraded base CATs and new CAT-2s for a total of 1,377 units. Program officials are prioritizing upgrades for the current CAT units instead of producing new CAT-2s. Therefore, the target in increment 1 is for mostly upgraded CAT units (1,302) and relatively few new production CAT-2s (75). In accordance with the acquisition program baseline, the specific quantities of upgrade kits and CAT-2 production units are flexible so the overall number of systems meeting CAT-2 functional requirements can be procured and delivered during increment 1.

The rebaseline also included separate ADE 3 events for the base CAT upgrades and CAT-2 production. According to program officials, ADE 3 for CAT upgrade kits was planned for September 2022; however, it was delayed when operational testing revealed system issues in the kits that required resolution. In April 2023, TSA awarded an indefinite-delivery, indefinite-quantity contract for CAT-2 production units and issued a firm-fixed-price delivery order on that contract for a single CAT-2 prototype unit, which was delivered by the contractor in August 2023. TSA achieved ADE 3 for the upgrade kits in June 2023 and ADE 3 for the CAT-2s is anticipated by March 2024. Program officials told us that they installed the first upgrade kit on September 27, 2023, consistent with the planned increment 1 initial operational capability baseline, and that documentation of that milestone would be completed in October. TSA officials told us that planning for increment 2 is scheduled to begin by December 2023.

In May 2023, DHS officials approved an administrative update to the baseline to realign funds within the program budget. The estimated life-cycle cost for increment 1 remained roughly constant from last year at $412 million. The costs associated with increments 2 through 4 are expected to be provided with separate baselines.

Performance and Testing

The program's June 2023 initial operational test and evaluation report concluded that CAT upgrade kits met or exceeded requirements for each of the four key performance parameters: ID detection rate, biometric match rate, passenger vetting status success rate, and user access success rate. However, it also identified areas where limitations on the suitability and resilience of the program might pose risks. In particular, DHS test and evaluation officials expressed concerns about the cyber resiliency of the program. They also noted that these vulnerabilities were not introduced by the CAT upgrade kits, but are already present in the existing CAT units. They recommended that the program implement fixes to these cybersecurity vulnerabilities and then plan to review those fixes as part of follow-on operational test and evaluation.

Program Management

Passed in 2005, the REAL ID Act set minimum security requirements for ID (e.g. driver's licenses or identification cards) issuance and production, including procedures for states to follow when verifying the identity of individual applicants. The act also prohibits federal agencies from accepting, for certain purposes, IDs not meeting these minimum standards. TSA intends to use CAT to validate state-issued identification for this purpose, but DHS has delayed enforcement of the REAL ID Act to May 2025. According to TSA officials, this decision is unrelated to CAT's schedule and they continue to work to ensure that CAT systems will be prepared to validate REAL IDs and that CAT is compliant with the act once enforcement begins.

Program Office Comments

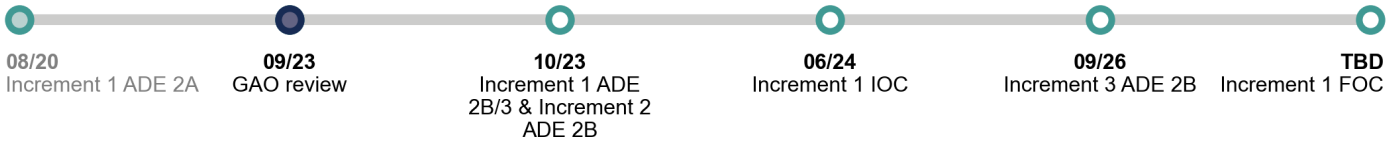
We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.

U.S. **Coast Guard**

Medium Range Recovery Helicopter

The MH-60T is a multi-mission helicopter that the Coast Guard uses to fulfill missions such as search and rescue; ports, waterways, and coastal security; and drug interdiction. The program is divided into three increments focused on extending the service life of the Coast Guard's MH-60T fleet through the late-2040s; and increasing the number of aircraft in the fleet to replace the MH-65 helicopters as they reach their service life limit. All increments have the option to use a mix of converting retired Navy H-60 aircraft and procuring new hulls from the original equipment manufacturer. According to Coast Guard officials, the MH-60T helicopters began reaching their 20,000-hour service life limit in fiscal year 2021.

Source: U.S. Coast Guard. | GAO-24-106573



Program Information

Component: U.S. Coast Guard (USCG)

Acquisition type: Non-IT

Acquisition level: 1

Key performance parameters: 6 out of 6 KPPs met

Contracting approach: The program reported awarding a sole-source indefinite-delivery, indefinite-quantity contract to Sikorsky Aircraft Corporation for new aircraft hulls in 2021.

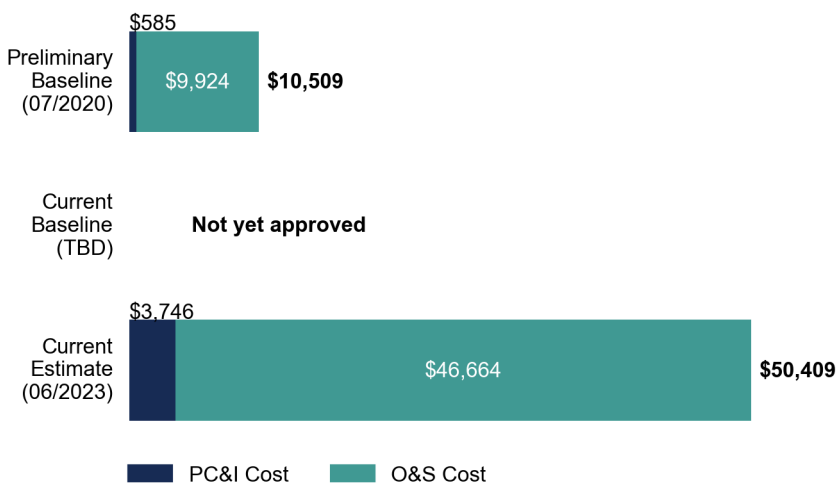
Quantity: The program's preliminary APB planned for 45 aircraft. The Coast Guard is expected to request approval for transition to an all MH-60T fleet of at least 127 aircraft at the ADE 2B decision in October 2023.

Next major milestone: Increment 1 ADE 2B/3 by October 2023

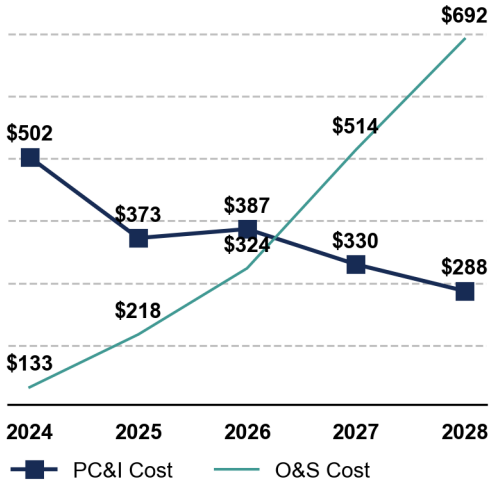
Key Findings

- **Cost and schedule.** Based on Coast Guard documentation, the Coast Guard expects to request approval of an updated APB in October 2023. This APB is expected to split the program into three increments, focused on both the service life extension work and increasing the total fleet size. To account for the larger fleet size, the cost estimate from April 2023 increased the acquisition estimate from $992 million to $4.9 billion and the O&S estimate from $18.5 billion to $46.7 billion. Additionally, the Coast Guard's initial estimate for shore infrastructure upgrades that are required to transition air stations from MH-65 aircraft to MH-60T aircraft is $1.2 billion.
- **Program management.** The Coast Guard plans to include modifications to the aircraft in increments 2 and 3 that will enable a subset of the fleet to be stored on cutters. These modifications include rotor and tail folding capabilities so that the aircraft can be stored in the hangars on cutters.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



MEDIUM RANGE RECOVERY HELICOPTER

Cost and Schedule Status

According to Coast Guard officials, they expect to reach ADE 2B/3 in October 2023 for the existing SLEP work and approve the updated APB. This APB is expected to call for an increased fleet size from 45 aircraft to at least 127 MH-60T aircraft to replace the Coast Guard's H-65 aircraft as they reach the end of their service lives. The APB is expected to break the program into three increments. The Coast Guard reported that, as a result of the expected increased fleet size of at least 127 aircraft, the program's total acquisition costs increased from $992 million in June 2022 to $4.9 billion in the April 2023 cost estimate. In addition, the O&S costs increased from $18.5 billion to $46.7 billion.

Increment 1 is expected to continue the service life extension of the existing fleet begun under the preliminary APB at the ADE 2A decision. Coast Guard officials anticipate fielding 45 aircraft using 42 new hulls and three Navy conversion hulls. The Coast Guard expects the first new production hull to be delivered in November 2023. The program reported that this was procured using an indefinite-delivery, indefinite-quantity contract with the original manufacturer. It will then be delivered to the Aviation Logistics Center where additional hardware will be installed. Coast Guard officials expect the first completed new hull to be available to conduct operations starting in May 2024.

Increments 2 and 3 are expected to increase the number of MH-60T aircraft to an overall fleet size of at least 127 aircraft and will include transitioning air stations from MH-65 aircraft to the MH-60T. In an April 2022 memo, the Coast Guard stated its plan to dispose of all 98 MH-65 aircraft due to their declining availability. Coast Guard officials stated that the Department of Defense's delay in its vertical lift recapitalization efforts also contributed to the decision to dispose of the MH-65 fleet. Increment 2 will transition eight air stations and includes those that will require minimal infrastructure upgrades and, according to officials, conduct missions similar to what MH-60Ts currently conduct. Increment 3 includes transitioning air stations that that will require more extensive infrastructure upgrades, such as work needed to store all MH-60T aircraft in hangars, and missions that the MH-60T does not currently conduct. An example of these operations includes helicopter interdiction type missions. Coast Guard officials expect to use Navy converted hulls for the first several air station transitions in increment 2. Coast Guard officials reported plans to procure additional hulls by modifying the contract awarded for segment 1. The Coast Guard's initial estimate for facility upgrades necessary to complete the air station transitions from MH-65 aircraft to MH-60T aircraft is $1.2 billion for increments 2 and 3.

Performance

The Coast Guard reported that all six of the program's KPPs are being met by the MH-60T helicopter based on operational data over 25 years. The parameters relate to endurance, radius of action, cargo capacity, communications interoperability with government and nongovernment partners, navigational accuracy, and reliability.

The Coast Guard has not planned operational testing of the Navy converted hulls or the new hulls. According to Coast Guard officials, ground checks and test flight procedures conducted after completing sustainment efforts are planned to validate component installations and satisfy testing requirements. DHS's Director, Office of Test and Evaluation agreed and program officials stated that the need for operational testing will be reevaluated if the program's scope evolves. Coast Guard officials stated that they intend to conduct a cybersecurity risk assessment exercise in fiscal year 2024.

Program Management

In a June 2022 memorandum, DHS granted the Coast Guard approval to begin making infrastructure improvements at the Aviation Logistics Center to build the expanded MH-60T fleet. At the ADE 2B decision expected in October 2023, the Coast Guard expects to set the size of the fleet at 127 aircraft, but Coast Guard documentation shows that the fleet could increase to 146 aircraft if a one-for-one replacement of the 98 MH-65 aircraft is needed. Coast Guard officials stated that the decision to procure more than 127 aircraft would not need to be made until the program starts work on increment 3. Increment 3 is expected to reach ADE 2B in fiscal year 2026.

The Coast Guard plans to include modifications to the aircraft in increments 2 and 3 that will allow a subset of the fleet to be stored in the hangars on cutters. This will be done by including the ability to fold the rotor blades and tail of the aircraft.

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.

Medium Range Surveillance Aircraft

The Coast Guard is taking a two-phased approach to acquire aircraft to reduce a gap in maritime patrol hours. Phase 1 covers the acquisition and sustainment of 18 HC-144 aircraft. Phase 2 includes converting 14 Air Force C-27J aircraft to HC-27Js for Coast Guard missions with a new mission system processor intended to enhance operator interface and sensor management. All 32 aircraft are twin-engine, propeller-driven platforms used to conduct all types of missions, including search and rescue and disaster response. Both aircraft have reconfigurable interiors that can accommodate cargo, personnel, or medical transport as needed, and provide the ability to increase time on patrol.

Source: U.S. Coast Guard. | GAO-24-106573

- **08/16** Combined aircraft APB approved
- **07/20** HC-27J Program breach
- **06/22** Program rebaseline
- **09/23** GAO review
- **06/26** HC-27J mission specific upgrades ADE 2C
- **09/26** HC-27J mission specific upgrades IOC
- **06/28** HC-27J mission specific upgrades ADE 3
- **03/32** FOC

Program Information

Component: U.S. Coast Guard (USCG)

Acquisition type: Non-IT

Acquisition level: 1

Key performance parameters: HC-27J aircraft KPPs not yet tested; 7 of 7 KPPs met for the HC-144B aircraft

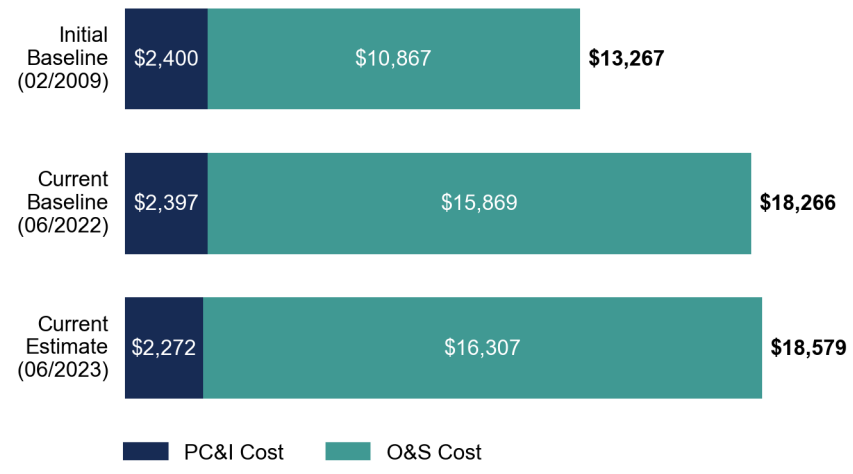
Contracting approach: The program uses military interdepartmental purchase requests for Department of Defense equipment and installations for the HC-27J. For the HC-144, the program reported using firm-fixed-price contracts with vendors and interagency agreements for mission system processor upgrades and related services.

Next major milestone: Approval for low-rate initial production of the HC-27J planned for June 2026 at ADE 2C

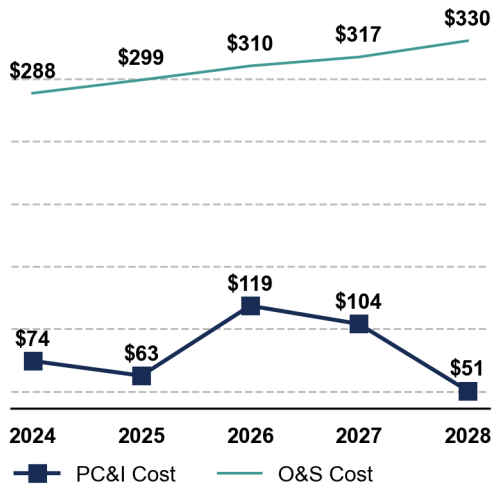
Key Findings

- **Cost and schedule.** HC-27J prototype aircraft 2-4 are in production and scheduled for delivery by fall 2024. As of July 2023, the program had installed upgraded flight management and mission systems on 15 of 18 HC-144 aircraft and plans to reach full operational capability by September 2024. The program's cost estimate increased by $890 million compared to prior reported estimates. The program identified inflation as one of several drivers.
- **Performance and testing.** The independent test agent began HC-27J ground testing in April 2023 and flight testing is ongoing. The independent test agent for MRS assessed the aircraft's mission system and identified risks, but determined that they were minimal and testing should continue.
- **Program management.** The program plans to reduce an expected HC-27J production gap by requesting long-lead-time materials for future aircraft. The program plans to extend the service life of the HC-144B from 23 years to the original planned 40 years by replacing components that were wearing out earlier than originally expected and changing operating procedures.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



MEDIUM RANGE SURVEILLANCE AIRCRAFT

Cost and Schedule Status

In June 2022, the MRS program rebaselined and exited breach status.The revised baseline includes changes to the planned schedule and cost for the HC-27J aircraft only, and accounts for time needed to finalize HC-27J production designs, test and certify new configurations, and install mission systems. Specifically, the program's baseline was revised to reach its next milestone of low-rate initial production by June 2026. Production of the three remaining HC-27J prototype aircraft is underway, and Coast Guard officials stated that they expect delivery by the fall of 2024. The program plans to seek approval for low-rate initial production 6 months ahead of schedule by December 2025, following completion of prototype testing. Full operational capability for the HC-27J is now expected in 2032, 7 years later than initially planned. The life-cycle cost estimate for the HC-27J increased by roughly $2.3 billion, which program officials attributed to changing the useful life of the HC-27J from 25 years to 25,000 flight hours per aircraft. The program reduced the annual flight hours per aircraft to 750 from 1,000 hours, which is intended to allow the aircraft to operate longer.

The program continues to upgrade HC-144A aircraft to the more capable HC-144B configuration in Phase 1. As of July 2023, the program had installed upgraded flight management and mission systems on 15 of 18 aircraft. The program plans to complete the 16th aircraft upgrade by April 2024. The program transitioned one air station to the HC-144B and plans to complete transitioning a second air station by December 2023. Full operational capability, defined as transitioning all four stations, is planned by September 2024.

While both phases remain within their current baseline cost goals, HC-27J life-cycle cost estimates increased by 5 percent since 2022, and HC-144B costs increased by 6 percent compared to 2021. The program identified inflation-driven increases in testing, parts, and personnel costs, and an updated decomissioning schedule for the HC-27J as some of the drivers for these changes.

Performance and Testing

Ground testing of the protoype HC-27J began in April 2023. Flight testing began in September 2023 and is ongoing. Initial operational test and evaluation for the HC-27J is scheduled to begin by 2025. As of March 2022, the HC-144B met its KPPs based on testing conducted in 2012 and 2021.

To help validate the performance of the HC-27J, Coast Guard officials plan to use HC-144B test results, since the two aircraft use the same mission systems. The program conducted an operational assessment of the mission systems and sensors used by both aircraft in December 2022 using an HC-144B. The independent test agent determined operational effectiveness and availability risks were not significant and recommended that the program continue testing. The program plans to complete additional mission systems testing by December 2024.

Coast Guard officials plan to complete a third cyber table top exercise in March 2024. These officials said issues identified during threat assessements informed the development of a test plan for the July 2023 cybersecurity testing conducted in the mission system integration laboratory. Coast Guard officials said the program scheduled vulnerability and adversarial assessments for 2023 as part of developmental testing.

Program Management

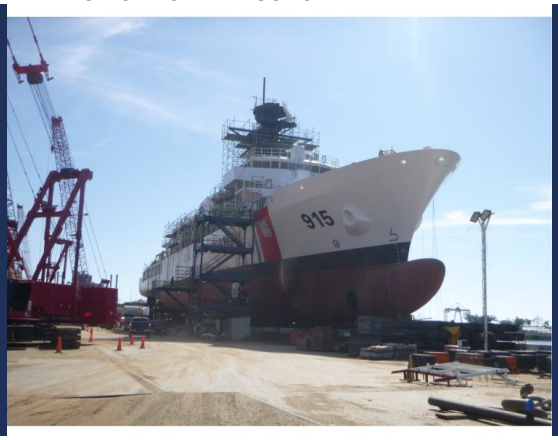
In April 2023, we reported that Coast Guard officials anticipated a production gap between HC-27J prototypes (aircraft 1-4) and low-rate production aircraft 5 so the program could finish developmental testing. The program received approval in May 2023 to obtain long-lead materials to convert aircraft 5 and 6. Coast Guard officials told us that starting conversion of the aircraft prior to the low-rate production authorization at ADE 2C, and concurrent with testing, could reduce the gap by 7 months. These officials said that they believed the risks associated with upgrading aircraft before testing were low. The program plans to request approval to upgrade following receipt of fiscal year 2024 funds.

The program plans to increase the HC-144B aircraft's service life from a manufacturer-assessed 23 years to the original planned 40 years by replacing parts that wear out earlier in a Coast Guard environment than a civilian environment and changing operating procedures. Coast Guard officials plan to add the service life extension to Phase 1 of the MRS program as a second segment.

Additionally, the program plans to deploy five unmodified C-27s with an interim sensor suite to a second air station starting in June 2023. The program plans to complete deployment by August 2024 as part of an acquisition obligation to transition two air stations.

Program Office Comments

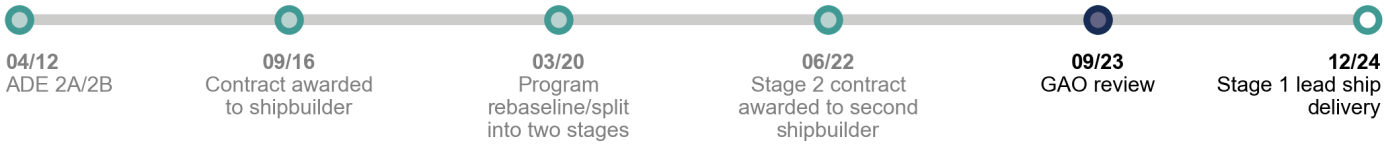
We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate. The MRS program stated that the HC-144B will achieve full operational capability with Minotaur conversions and meet all KPPs in fiscal year 2024, and that the HC-27J achieved its first missionized flight in September 2023. The program will continue to focus on completing testing, installing mission systems, and supporting service life management efforts.



Offshore Patrol Cutter

The Coast Guard plans to acquire 25 OPCs to conduct multi-mission operations including homeland security, law enforcement, and search and rescue. The OPC is designed for long-distance transit, extended on-scene presence, and operations with deployable aircraft and small boats. It is intended to replace the Coast Guard's aging Medium Endurance Cutters and complement the operational capabilities provided by the Fast Response Cutters and National Security Cutters. After a 2018 hurricane devastated the shipbuilder's facilities, the Coast Guard split the program into two stages, with stage 1 covering OPCs 1-4 and stage 2 covering OPCs 5-15. The Coast Guard plans to acquire OPCs 16-25 under a separate stage.

Source: U.S. Coast Guard. | GAO-24-106573



Program Information

Component: U.S. Coast Guard (USCG)

Acquisition type: Non-IT

Acquisition level: 1

Key performance parameters: Testing of 6 KPPs has not begun

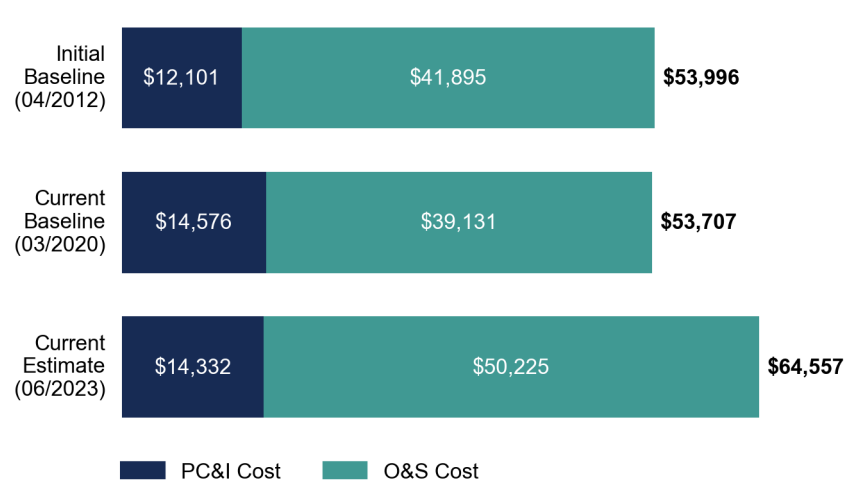
Contracting approach: The program awarded the first stage to a shipbuilder in 2016 and included firm-fixed-price and fixed-price incentive (firm-target) line items for the design and construction work, respectively. The program awarded the second stage to a different shipbuilder in June 2022 after a full and open competition.

Next major milestone: Delivery of the lead ship by December 2024

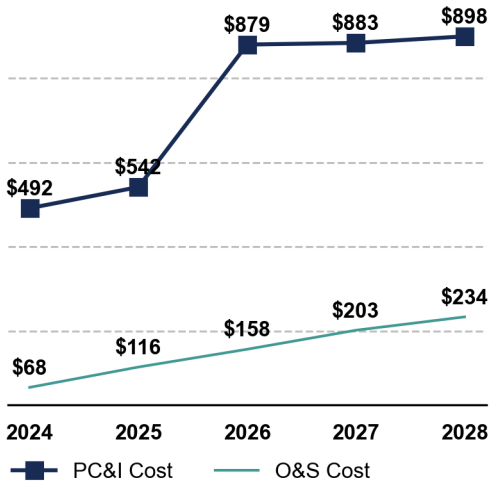
Key Findings

- **Cost and schedule.** The delivery of the lead ship is delayed to late 2024 due to continued challenges with the stage 1 shipbuilder and its subcontractors. Those challenges include manufacturing errors with a key component of the propulsion system. The total acquisition cost estimate has increased by 41 percent since the beginning of the program.
- **Design and construction.** The Coast Guard authorized construction on all stage 1 ships prior to maturing its sole critical technology and achieving a stable design. It has yet to complete the design of distributive systems—which span multiple zones of the ship—like the heating, ventilation, and air conditioning system. Shipbuilder data on construction progress indicate that there is a significant amount of work remaining.
- **Program management.** The program is in the process of rebaselining, and officials expect to have a new APB and life-cycle cost estimate approved by January 2024.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



OFFSHORE PATROL CUTTER

Cost and Schedule Status

The OPC program continues to face significant cost and schedule challenges despite a program restructure in 2020. In 2018, Hurricane Michael caused extensive damage to the facilities of the program's shipbuilder, Eastern Shipbuilding Group, Inc. (ESG). After determining that it could no longer meet contract terms, ESG requested schedule and cost relief in 2019 for OPCs 1 through 9. In 2019, DHS granted extraordinary contractual relief, authorizing up to $659 million in cost relief to ESG for the design and construction of the first four OPCs (stage 1) pursuant to Public Law 85-804, and directed the program to recompete the requirement for OPCs 5 through 25 (stage 2 and subsequent stages). The Coast Guard also delayed delivery of the first four OPCs in response to ESG's request for schedule relief. In June 2022, the Coast Guard competitively awarded a stage 2 contract for up to 11 OPCs to Austal USA, LLC.

Since 2019, the Coast Guard has pushed out OPC stage 1 delivery dates multiple times. In May 2022, the Coast Guard modified ESG's delivery dates to install weapons systems and radars prior to delivery rather than after delivery, as originally planned. This change shifted delivery of OPC 1 by 10 months from August 2022 to June 2023. However, ESG subsequently did not meet the contractual delivery date due in part to a manufacturing issue with propeller shaft segments, which generate thrust as part of the propulsion system. The program now estimates a delivery of December 2024. In total, the lead ship's delivery has slipped about 3 years since its 2017 delivery schedule.

The program's PC&I cost for all 25 OPCs in the 2023 cost estimate is about $12 billion—the same as the 2022 estimate. However, the target price—which provides the basis for obligating funding on the contract—for design and construction of OPCs 1 through 4 increased 55 percent since award of the OPC detail design and construction contract to ESG in September 2016. In June 2023, we reported that the total acquistion cost estimate, which includes research and development and PC&I, actually increased 41 percent from about $12 billion in 2012 to almost $18 billion in 2022. The program attributes the increase to several factors, including the damage caused by Hurricane Michael, additional costs incurred by the decision to award stage 2 to a new shipbuilder, and increased infrastructure costs. As of August 2023, about $447 million of the $659 million in extraordinary contractual relief had been obligated for contract cost increases and cash infusion for ESG to maintain capability.

Design and Construction

In September 2018, the Coast Guard authorized the start of construction on the lead ship, prior to demonstrating the maturity of its sole critical technology—the davit, a crane that lowers and raises the OPC's small boats—and stabilizing the ship design. The Coast Guard authorized OPCs 2 through 4, again without demonstrating technology maturity or design stablility.

ESG is working with a subcontractor to deliver a novel davit design that requires integration of existing technologies to meet a requirement for small boat operations in sea state 5—rough waves ranging from 8 to 13 feet. As of August 2023, the Coast Guard is still tracking two remaining high-risk issues with the system—the gear system that raises and lowers the crane, and the electrical cabinet design.

The ship design is also behind schedule, which has led to construction rework and contributed to a nearly 2-year delay in delivering the lead ship. Specifically, the design of distributive systems—systems that span multiple zones of the ship—are unstable, including the heating, ventilation, and air conditioning. In July 2023, we reported that a considerable amount of complex construction work still needs to be completed on distributive systems, thus increasing the risk of further delays.

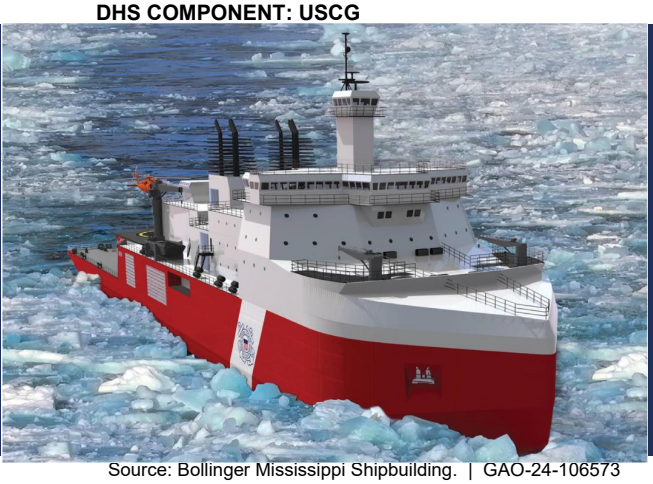
Program Management

In October 2020, we recommended that the Coast Guard revise the OPC program's APB. According to the Coast Guard, the program formally started this process in August 2023. Program officials expect to have a new APB and life-cycle cost estimate approved by January 2024.

In June 2023, we made five recommendations to the Coast Guard to address risks we identified in the OPC program. The Coast Guard concurred with three of the five recommendations. In August 2023, the Coast Guard addressed one of the recommendations, and the other four recommendations remain open. For additional information, see GAO-23-105805.

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.



Source: Bollinger Mississippi Shipbuilding. | GAO-24-106573

Polar Security Cutter

The PSC program is intended to assist the Coast Guard in maintaining access to Arctic and Antarctic polar regions. The Coast Guard requires its PSCs to conduct multiple missions, including ice operations, defense readiness, marine environmental protection, and search and rescue. The Coast Guard plans to acquire three PSCs to recapitalize its heavy polar icebreaker fleet, which currently consists of one operational cutter that conducts an annual operation in the Antarctic.

Program Information

Component: U.S. Coast Guard (USCG)

Acquisition type: Non-IT

Acquisition level: 1

Key performance parameters: Testing of 4 KPPs has not begun

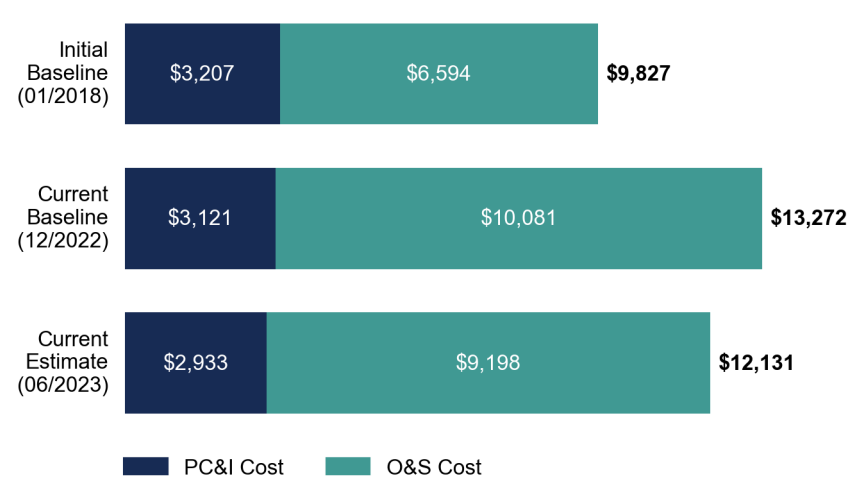
Contracting approach: The program awarded a contract to the shipbuilder in 2019 and included fixed-price incentive (firm-target) line items for the design and construction work.

Next major milestone: Critical design review by December 2023

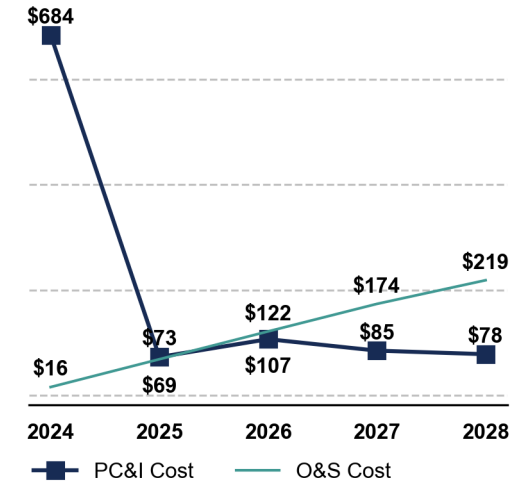
Key Findings

- **Schedule.** The program's baseline goal is to deliver the lead ship by June 2027, a 3-year delay from its initial goal. Program officials attributed the delay to the immaturity of the ship's design, shipbuilder challenges, and COVID-19 effects. However, the program may postpone the delivery date again after completing a formal program review that will assess the shipbuilder's schedule information.
- **Design and construction.** An immature design remains a top challenge for the program. The shipbuilder has completed nearly half of the design after 4 years of design work. According to program officials, the shipbuilder likely underestimated the effort required to design the complex ship. The program plans to assess the shipbuilder's design in December 2023 and authorize the shipbuilder to start lead ship construction in March 2024. As of October 2023, after government approval, the shipbuilder began production on a limited number of prototype units to help mitigate production risks.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



POLAR SECURITY CUTTER

Cost and Schedule Status

The program has revised its APB twice since its initial acquisition baseline in 2018. The current APB reflects a 35 percent increase in life-cycle costs and a 3-year delay in delivery of the lead ship, which is now planned for no later than June 2027. Most of the cost increase was driven by an increase in estimated O&S costs. The higher estimates resulted from an increase in ship size and additional analysis of historical cost data, which addressed, in part, a recommendation we made in 2018. According to program officials, the main factors that delayed the schedule include significant design modifications by the shipbuilder to meet the complex design requirements of the icebreaker; the U.S. shipbuilding industry's lack of experience with designing and building icebreakers; challenges with the original shipbuilder, VT Halter Marine, Inc. (now known as Bollinger Mississippi Shipbuilding); and the effects of the COVID-19 pandemic.

However, the program may have to revise its APB again after it completes a formal program assessment. The program began the assessment in November 2022 to help address unreliable schedule information provided by the shipbuilder. According to program officials, they plan to complete the assessment that will validate the reliability of the shipbuilder's schedule by February 2024. Program officials stated that the lead ship delivery date may get delayed further as a result.

According to Coast Guard officials, the program's top risks are: (1) global supply chain issues resulting from the COVID-19 pandemic and war in Ukraine, which could delay arrival of materials and construction; and (2) challenges with designing and integrating the control system with the propulsion system, which could delay delivery. Programs officials stated they are taking risk mitigation steps such as engaging with stakeholders.

Design and Construction

Design immaturity continues to be a top challenge identified by the program. Coast Guard officials stated that, as of July 2023, the shipbuilder had completed about 46 percent of the overall design, which it began in 2019. Design maturity has progressed slowly as a result of some of the schedule challenges noted earlier. According to program officials, the shipbuilder likely underestimated the magnitude of design modifications required to meet the program's requirements. Additionally, the shipbuilder's subcontractor made errors in its design calculations and underestimated the design scope, which required significant, late design revisions. The program had previously planned to conduct a critcal design review by December 2022 to further evaluate design maturity. However, Coast Guard officials stated that, given the design progress, they postponed the review by 1 year to December 2023, and may further postpone it.

The program plans to start lead ship construction in March 2024. As of October 2023, following government approval, the shipbuilder began construction on two prototype units. The shipbuilder's contract includes a limited number of prototype units for production, with each unit subject to government approval. If approved, the shipbuilder can produce up to eight (out of 85) selected units of the ship deemed to be low-risk prior to completing the ship's design. Officials stated the prototype units will help mitigate some of the program's production risks, including the shipbuilder's inexperience with shaping the specialized steel needed for the hulls.

Coast Guard officials stated that the program conducted a cybersecurity assessment in 2023 and deemed the results as sensitive. The program plans to conduct additional cybersecurity tests in June 2024.

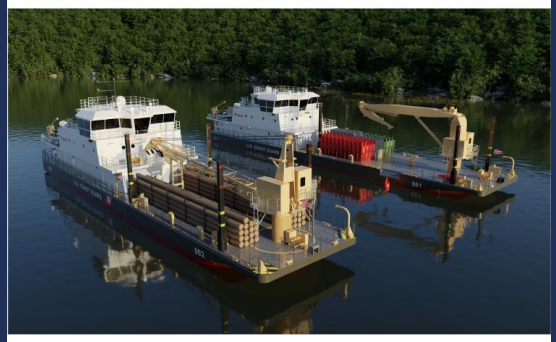
Program Management

The Coast Guard established an integrated program office and ship design team with the Navy. The Coast Guard also established a project resident office at the shipbuilder's facility in Pascagoula, Mississippi, to provide oversight. The program has faced a number of challenges with the shipbuilder, including: (1) deficiencies with business systems that likely limit the reliability of cost and schedule estimates; and (2) delays in awards of subcontracts that contributed to schedule delays. The shipbuilder is implementing corrective actions to address deficiencies with the business systems.

In September 2018, we made six recommendations to address risks identified with the PSC program. The program addressed four of the recommendations, while the remaining two were closed as not implemented. In July 2023, we made two recommendations to DHS and the Coast Guard to address design and schedule risks (GAO-23-105949).

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate. Coast Guard officials noted that the design modifications referenced in the assessment refer to differences between the shipbuilder's original design and the evolving PSC design rather than contract requirement changes. Officials also noted that, because the design process is not linear, the 46 percent completion of design does not mean that the design effort and time are half complete.



Waterways Commerce Cutter

The WCC is intended to replace the Coast Guard's legacy fleet of construction and river/inland buoy tenders—cutters with an average age of more than 58 years. The primary mission for the WCCs is to establish, maintain, and operate aids to maritime navigation on the western rivers and inland waterways. This work supports the flow of economic activity along the nation's waterways. The Coast Guard developed an acquisition strategy with two distinct segments. Segment 1 will replace the river buoy tenders and inland construction tenders with a nearly common design, and segment 2 will replace the inland buoy tenders. The Coast Guard is striving for maximum commonality between all variants.

Source: Birdon America, Inc. | GAO-24-106573

Program Information

Component: U.S. Coast Guard (USCG)

Acquisition type: Non-IT

Acquisition level: 1

Key performance parameters: Testing of 5 KPPs has not begun

Contracting approach: The Coast Guard awarded an indefinite-delivery, indefinite-quantity firm-fixed-price contract to Birdon America, Inc. in October 2022 for design and engineering of segment 1. Segment 2 will use a government-led design and be built commercially.

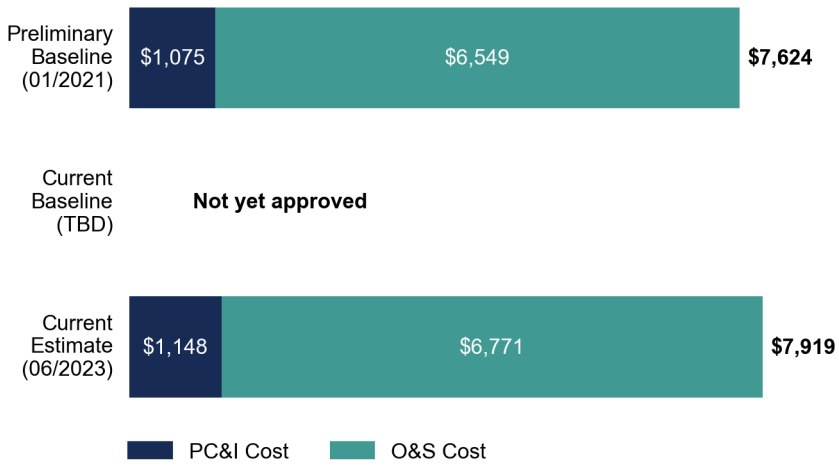
Quantity: 30 cutters (segment 1: 16 river buoy tenders and 11 inland construction tenders; segment 2: three inland buoy tenders)

Next major milestone: Segment 1 ADE 2B by January 2024

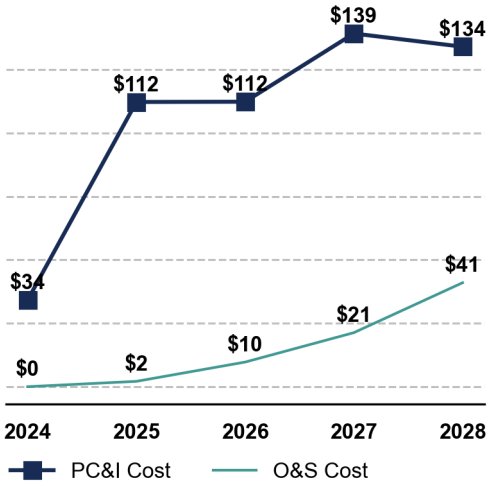
Key Findings

- **Schedule.** In October 2022, the Coast Guard awarded a contract to Birdon America, Inc. for the design and engineering of segment 1 cutters. The Coast Guard expects segment 1 to reach ADE 2B and DHS to approve its initial APB by January 2024. The ADE 2B decision for segment 2 has been delayed nearly 4 years because, according to program officials, the Coast Guard did not have enough knowledge about the inland buoy tender to make an informed decision. According to Coast Guard officials, this schedule shift will aid in maximizing commonality with all three variants.
- **Program management.** According to Coast Guard officials, the contract for the WCCs in segment 1 includes a 24-month warranty. Coast Guard officials said they incorporated lessons learned from the Fast Response Cutter program. In March 2022, we reported that according to the Coast Guard, the warranty clause included in the Fast Response Cutter contract enabled the program to avoid $162 million in costs associated with addressing latent defects covered by the clause.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



WATERWAYS COMMERCE CUTTER

Cost and Schedule Status

In April 2021, DHS approved the program's ADE 2A, authorizing the program to enter the obtain phase of the acquisition life cycle and to set the low-rate production quantity. In October 2022, the Coast Guard awarded a contract to Birdon America, Inc. for the design and engineering of segment 1 cutters. However, Coast Guard officials stated that Birdon did not begin work on this contract until March 2023, following resolution of a bid protest. The program expects segment 1 to reach ADE 2B, with DHS approving its initial APB, by January 2024. Segment 2 is expected to reach ADE 2B in September 2026, nearly 4 years later than original estimates. Program officials said the delay is because the Coast Guard did not have enough knowledge about the inland buoy tender to make an informed business decision. According to Coast Guard officials, this schedule shift will aid in maximizing commonality with all three variants.

The Coast Guard's original objective date for initial operational capability in March 2025 reflected its efforts to accelerate the program by more than a year following congressional direction in the Explanatory Statement accompanying the Consolidated Appropriations Act, 2018. However, Coast Guard officials said that, due to delays in awarding the design and engineering contract, including resolving issues related to a bid protest, the initial operational capability date for segment 1 is now estimated to occur in fiscal year 2027.

The Coast Guard plans to achieve initial operational capability following testing and certification that the first hull of each WCC variant satisfies all KPPs. The KPPs represent threshold requirements that are essential to perform the aids to navigation mission. The Coast Guard plans to achieve full operational capability when all cutters have been fielded, which is planned for 2033.

The program's June 2023 cost estimate reflects cost growth of $226 million in acquisition costs, and $541 million in O&S costs compared to the June 2022 estimate. Total program costs grew by $767 million.

Performance and Testing

According to program officials, because the WCCs will be slightly more capable than the legacy assets, it was determined that fewer are needed to meet mission needs. The WCC assets are intended to have more endurance and deck load capacity, allowing them to cover more distance during a mission.

Program officials said that they plan to conduct initial operational testing on each cutter variant. The program's schedule previously anticipated declaring initial operational capability before the formal completion of initial operational testing, increasing the possibility of potential rework and retrofits if defects were found in testing. However, the program's current schedule calls for initial operational capability to be declared after initial operational testing is completed on each variant. This approach reduces risk that the Coast Guard would need to conduct redesign or rework on fielded cutters.

According to Coast Guard officials, the program plans to conduct a cybersecurity exercise in fiscal year 2024. This exercise will review the chosen vendor's design for vulnerabilities following the preliminary design review.

Program Management

The Coast Guard plans to acquire two variants in WCC segment 1: new river buoy tenders and inland construction tenders. Coast Guard officials said that these two variants are being designed together because they have similar requirements and to make sustainment more efficient. Officials expect the two designs to have 95 percent commonality. The primary differences will be the length of the cutters and the working deck equipment. WCC segment 2 is planned to acquire the inland buoy tenders, which are expected to address more unique requirements. The program is working with the U.S. Army Corps of Engineers to develop a Coast Guard-specific design for this segment since there is nothing available commercially that can meet the Coast Guard's needs.

Birdon America, Inc. plans to construct the cutters for segment 1 at Bollinger Shipyards LLC's Lockport, Louisiana, facility, where the Coast Guard's Fast Response Cutters are currently constructed. In addition, Coast Guard officials said they modeled the WCC's 24-month warranty clause after the clause included in the Fast Response Cutter contract. In March 2022, we reported that according to the Coast Guard, this clause covered numerous issues, such as latent defects, and enabled the Coast Guard to avoid $162 million in costs associated with addressing these defects. In addition to the cutters in segments 1 and 2, the program is acquiring new cutter boats for use on all variants. Coast Guard officials expect to acquire a minimum of 50 of these 21-foot aluminum hull boats. The Coast Guard expects to award the production contract for these boats by December 2023.

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate. Coast Guard officials stated that an updated cost estimate will be completed for ADE 2B in January 2024. A request for proposals for segment 2 is expected to be released in fiscal year 2025, which will utilize the maturity of the segment 1 designs.

270' Medium Endurance Cutter Service Life Extension Program

The Coast Guard's 270' MEC fleet is used for search and rescue, drug interdiction, and other missions. All 13 cutters in the class have reached the end of their original 30-year design service life, and the designated replacement for the MEC is the Offshore Patrol Cutter (OPC). The 270' MEC service life extension program (SLEP) is intended to extend the service life of six of the 13 cutters up to 10 years to help close the operational capability gap until OPCs begin operational service. The cutters that undergo the SLEP work are intended to continue operating into the 2030s.

| GAO-24-106573

07/19 ADE 2A/B

03/23 ADE 2C & Program redesignated to level 3 acquisition

09/23 GAO review

03/26 IOC

06/30 FOC

Program Information

Component: U.S. Coast Guard (USCG)

Acquisition type: Non-IT

Acquisition level: 3

Key performance parameters: Testing for 6 KPPs not complete yet

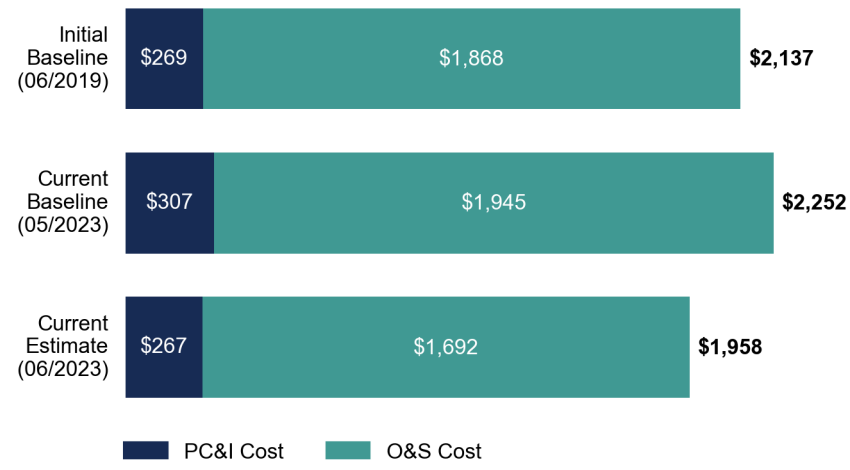
Contracting approach: The program reported using sole-source contracts with the original equipment manufacturer for the main diesel engines and for the initial electrical generation system long-lead-time material contract. The main diesel engine contract is firm-fixed-price. SLEP work will be conducted at the Coast Guard Yard in Baltimore, Maryland.

Next major milestone: Initial operational capability by March 2026

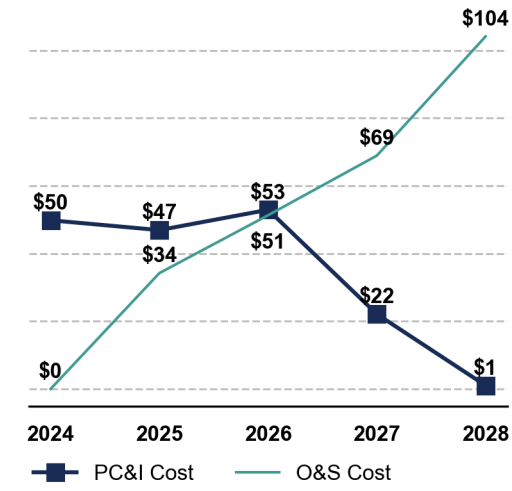
Key Findings

- **Cost and schedule.** In November 2022, DHS leadership approved an APB schedule adjustment memorandum that delayed several key milestones, such as initial operational capability, by 6 months due to COVID-19 effects. Further, in May 2023, DHS leadership approved an APB cost adjustment memorandum that increased the program's acquisition estimate by about $38 million and increased the operations and sustainment costs by $77 million. In total, the life-cycle cost estimate increased by $115 million.
- **Testing.** The Coast Guard completed the second electrical system prototype in July 2023 and conducted tests on the new gun weapon system in August 2023. The January 2023 DHS summary of operational testing stated that the cutters are at medium risk of not being operationally effective due to the new gun weapon system's reduced destructive and disabling fire capability against larger vessels. Coast Guard officials said they are updating the operational requirements document to clarify the requirement for conducting destructive and disabling fire operations. It is unclear what the operational effect of this change will be.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



270' MEDIUM ENDURANCE CUTTER SERVICE LIFE EXTENSION PROGRAM

Cost and Schedule Status

In March 2023, DHS leadership approved ADE 2C for the MEC SLEP program. As part of this milestone, DHS approved low-rate production of the SLEP work for the first three cutters and long lead procurement for the remaining three hulls. In addition, DHS designated the program a nonmajor level 3 acquisition program, which transferred the acquisition decision authority to the Coast Guard. Coast Guard officials said that, despite this change, the program is still required to complete the same documentation.

DHS leadership approved an APB schedule adjustment memorandum in November 2022 in response to effects from COVID-19. The reported effects included fewer workers available to support construction activities, supply chain disruptions, and cost increases due to inflation. The memorandum allowed the program to delay several program milestones by 6 months, including initial operational capability from September 2025 to March 2026. In May 2023, DHS approved an APB cost adjustment memorandum related to COVID-19 effects, which increased the total acquisition cost from $269 million to $307 million, and increased the total O&S costs from $1.87 billion to $1.95 billion. According to the updated APB, the six MECs in the SLEP program have an average unit cost of $51 million, which is a $7 million increase from earlier estimates. The program plans to reach ADE 3 by September 2026 and is required to update its cost estimate at that time.

Performance and Testing

The 270' MEC SLEP involves the acquisition of two major systems: the main diesel engines and the electrical system, which includes the ship-service and emergency generators. The SLEP will also include structural refurbishment to stern tubes as well as updates to the gun weapon system.

To mitigate risk related to replacing the electrical system on the cutters, DHS leadership authorized the program to use two electrical system prototypes. Coast Guard officials stated that work on the second prototype was completed in July 2023. Significant metal deterioration was discovered during the installation of the second prototype, which could also be discovered on the cutters that will undergo SLEP work given their age. Coast Guard officials said they allotted additional time during the SLEP work for these types of repairs. The Coast Guard conducted an initial test of the new gun weapon system on the second prototype in August 2023. The new weapon system is currently used by Navy assets and the Coast Guard's Fast Response Cutter. Coast Guard officials indicated they do not expect to discover significant issues.

The production cost of the first prototype exceeded original estimates by 62 percent, and the second prototype exceeded estimates by 28 percent. This was due to a lack of experience installing new generators and switchboards on the nearly 40-year-old cutters, among other reasons. Coast Guard officials stated they are not expecting the six cutters that will undergo the SLEP work to exceed the allotted amount per hull.

In January 2023, the DHS Director, Office of Test and Evaluation released its formal summary of operational testing in support of the ADE 2C decision and noted that the cutters are at medium risk of not being operationally effective. This is primarily due to the reduced destructive and disabling fire capability of the new gun weapon system compared to the old system against larger surface vessels. The root cause of this problem is the lower weight of the projectile fired by the new weapon system. The testing summary also found the cutter to be at low risk of not being operationally suitable due to the improved electrical capacity and the new and rebuilt main diesel engines, among other things.

The program plans to demonstrate its six KPPs through a series of test events. The program's KPPs are related to speed, endurance, range, boat and helicopter operations, and interoperability with systems from various partners. The November 2022 APB schedule adjustment memorandum calls for operational test and evaluation to be completed by March 2026 on the first SLEP cutter.

Program Management

The Coast Guard plans to conduct the SLEP at the Coast Guard Yard in Baltimore, Maryland, primarily with a government workforce. According to Coast Guard officials, the first cutter entered the Yard in April 2023 to start the SLEP work. To address the uncertainty of the OPC delivery schedule, Coast Guard officials reported that the SLEP contracts are structured to provide upgrades for up to all 13 270' MECs, if necessary. In August 2023, Coast Guard officials explained they have not seen an increase in equipment failures that would cause them to expand the program's scope beyond the current six cutters. They previously stated that any expansion of the SLEP program beyond six cutters would require an APB adjustment.

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.

U.S. Customs and
Border Protection

Automated Commercial Environment

ACE is a cloud-based platform that is intended to collect, process, and manage trade data submitted electronically by the international trade community. It aims to provide private and public sector stakeholders with access to information that is required for the release of imported cargo and the clearance of exported cargo. ACE was designed to replace legacy import and export systems with a modern, automated system to increase the efficiency of operations at U.S. ports and enable faster decision-making. The ACE Core functionality to manage trade data has been deployed. This assessment focuses on ACE Collections, an incremental development effort intended to modernize the processing and collection of duties owed on imported goods.

Source: CBP and stock.adobe.com. | GAO-24-106573

Program Information

Component: U.S. Customs and Border Protection (CBP)

Acquisition type: IT

Acquisition level: 1

Key performance parameters: 4 of 4 KPPs met

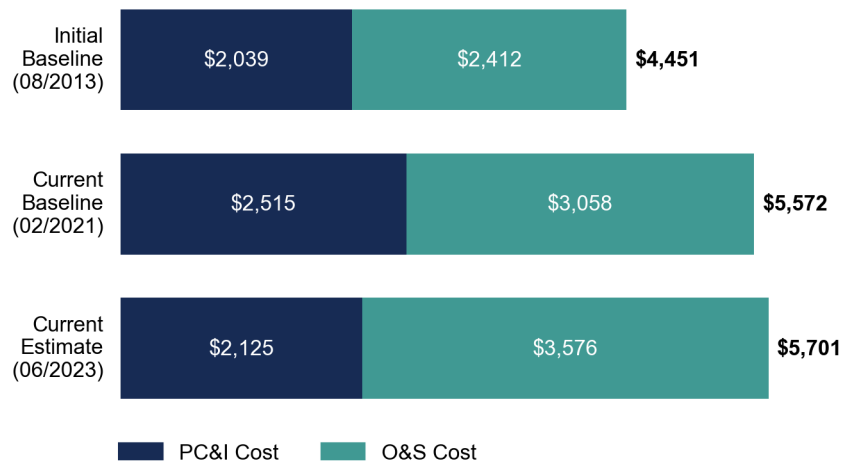
Contracting approach: The program reported using multiple existing contracts for IT services, software development, and sustainment. In 2019, the program awarded a time-and-materials task order to Dev Technology Group for development and operations and to support the Collections software.

Next major milestone: Full operational capability for ACE Collections by July 2024

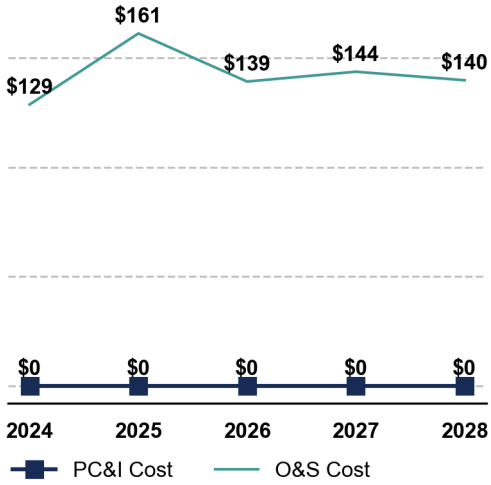
Key Findings

- **Cost and schedule.** CBP expects to deploy Release 7 of Collections before July 2024, when the program plans to reach full operational capability. CBP updated its program life-cycle cost estimate in January 2021 to extend the program's end of operations and sustainment from 2026 to 2031. However, the program has yet to receive DHS leadership approval for its revised acquisition baseline to reflect this change. DHS Program Accountability and Risk Management officials stated they anticipate that CBP will submit an updated APB by December 2023.
- **Testing.** In October 2021, the ACE Core functionality was determined to be not cyber resilient. The program reported it has additional cyber-related tests planned for when Release 7 of Collections is deployed. Some of these tests will be part of the program's follow-on operational testing for the ACE Collections functionality.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



AUTOMATED COMMERCIAL ENVIRONMENT

Cost and Schedule Status

In December 2020, DHS approved the ADE 2B for Collections software Releases 6 and 7. These are the last two software releases needed for CBP to retire the current system. CBP has deployed Collections software Releases 1 through 6 and expects to deploy Collections software Release 7 before full operational capability, which is expected to be achieved by July 2024. The program had also been assessing the potential for an eighth software release. As of August 2023, officials said they did not plan to incorporate Release 8, and it is not required for the Collections to reach full operational capability.

The program is funding Collections Releases 4 through 6 with a $15 million transfer from the Technology Modernization Fund, an IT working capital fund that CBP is required to repay. The program is using additional funding from CBP to fund Release 7. With software Releases 6 and 7, the approved total life-cycle cost threshold for Collections is $171 million. Initially, the shift to a cloud-based platform was expected to bring cost savings, but CBP officials said a recent reassessment showed those will not be realized. Officials expect the program, however, to remain within its cost limits so they do not anticipate making any updates to the life-cycle cost estimate or APB at this time.

To extend the program's end of O&S from fiscal year 2026 to 2031, the program last updated its life-cycle cost estimate in January 2021. In March 2021, the program updated its APB to reflect the changes made to the program's life cycle but has yet to receive DHS leadership approval for this update. Officials from DHS's Office of Program Accountability and Risk Management clarified that, while ACE CORE has reached full operational capability, Collections is still under development and changes to the APB require leadership approval. Program Accountability and Risk Management officials anticipate that CBP officials will submit an updated APB by December 2023.

Performance and Testing

In October 2021, the test agent determined that the ACE Core program was not cyber resilient and made numerous recommendations to address identified vulnerabilities with the ACE network and systems. In August 2023, program officials reported that all recommendations had been addressed, and they planned to reassess cyber resiliency for the ACE program in April 2024, after the deployment of Release 7. According to CBP officials, the program conducted a cyber table top exercise in June 2023 and, subsequently, completed additional penetration testing in September 2023.

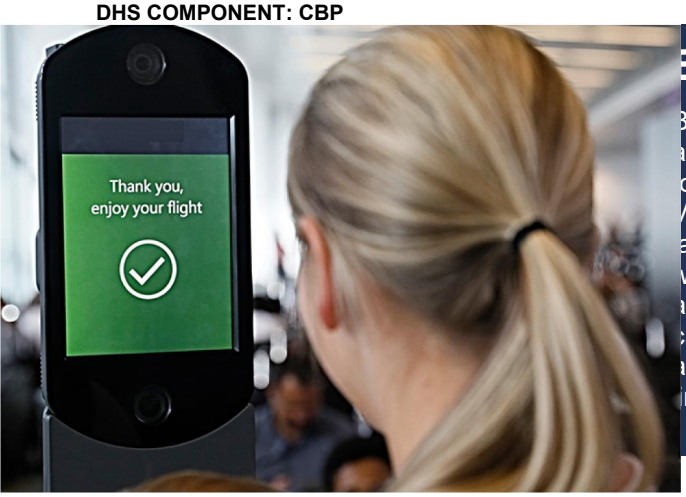
In November 2018, DHS's Director, Office of Test and Evaluation determined that ACE Core functionality met all four of its KPPs—system availability, providing cargo data for targeting, processing import and export documents electronically, and acting as a single window for trade data. As a result, the ACE Core program was deemed operationally suitable and effective with limitations. The independent test agent determined that all critical operational issues for the ACE Core functionality had been resolved during follow-on operational testing completed in July 2020. According to CBP officials, operational testing to confirm that ACE Collections addresses all critical operational issues is planned to begin in February 2024 and will be conducted at various ports of entry.

Program Management

CBP is planning for the future of ACE with a successor program, ACE 2.0. In July 2023, CBP released a request for information for ACE 2.0. CBP officials stated that ACE 2.0 will likely be a major acquisition program and is in the early stages with a targeted ADE 1 by early 2024. According to these officials, ACE 2.0 will focus on automation needs for Core capabilities related to modernizing customs processes, and allow for full supply chain transparency.

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.



Biometric Entry-Exit

BE-E aims to identify foreign nationals that stay in the U.S. beyond their authorized periods of admission. The program is developing capabilities to match travelers to photos in DHS's databases through its Traveler Verification Service (TVS) as they enter and exit the U.S. at air, sea, and land ports of entry. CBP plans to implement BE-E in segments that align with those environments. The program deployed the air segment in 2021 and is currently focused on the sea segment. The equipment that captures biometric photo data for the air and sea segments will be owned and operated through public-private partnerships with airlines and cruise lines. CBP will own and operate equipment for the land segment.

- **12/18** Air segment ADE 2B
- **07/21** Air segment FOC
- **09/23** GAO review
- **TBD** Sea segment ADE 2A/3
- **12/24** Sea segment FOC
- **TBD** Land segment ADE 2A

Program Information

Component: U.S. Customs and Border Protection (CBP)

Acquisition type: IT

Acquisition level: 1

Key performance parameters: 4 out of 4 met for the air segment; 4 sea segment KPPs have not completed testing

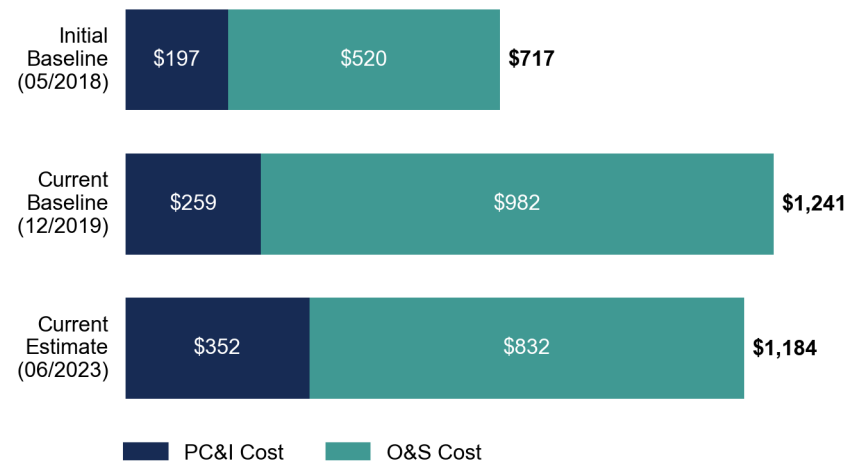
Contracting approach: The program has used multiple contracts to procure goods such as cameras and IT services as well as identity verification.

Next major milestone: Sea segment ADE 2A/3 is TBD (estimated by early 2024)

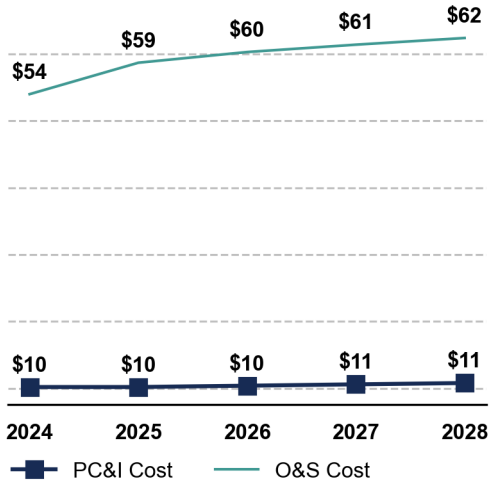
Key Findings

- **Cost and schedule.** CBP officials reported that funding continues to be a challenge for the program due to its reliance on visa application fees. Officials stated that they are considering changes to the program's scope and requirements or decommissioning of TVS. CBP officials stated that the program aims to achieve a combined ADE 2A/3 for the sea segment by early 2024. According to officials, the program halted technology demonstrations for the land segment until affordability concerns are resolved.
- **Testing**. The program completed operational test and evaluation for the sea segment and was determined to be effective in supporting biometric processing.
- **Program management.** The program uses public-private partnerships at ports of entry to facilitate the program, and CBP officials reported an increase in participation.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



BIOMETRIC ENTRY-EXIT

Cost and Schedule Status

BE-E reported that it continues to face funding challenges due to fewer than expected visa application fees. But, according to officials, BE-E is considering options to make the program affordable including decommissioning TVS, rescoping the program, or changing program requirements. Officials shared that the long-standing funding issues have put support for TVS operations and maintenance activities at risk, and they are aware that the shutdown of TVS may further affect CBP. The program reported approximately $13 million in total fees collected for fiscal year 2023. This is lower than the $26 million in collected fees that officials reported were available to the program last year. This is also considerably less than the approximately $115 million per year that the Congressional Budget Office originally projected would be available to the program. CBP officials explained that the program used the remaining fees collected in previous years to mitigate shortfalls. However, these fees are depleted, and the program will have to rely solely on the visa application fees.

According to CBP officials, the ongoing funding issues caused delays to the program schedule and progress on the sea segment. CBP officials stated the program is currently working toward a combined ADE 2A/3 milestone for the sea segment by early 2024, more than 2 years later than the originally planned June 2021 date. The sea segment uses the same biometric matching service used for the air segment, and the program intends to deploy it once key acquisition documents, including the APB, are updated and approved. Officials reported that they have halted technology demonstrations for BE-E's land segment until affordability concerns are addressed.

According to CBP officials, the June 2023 current estimate for the program includes costs for the air, sea, and land segments, while the December 2019 baseline only included costs for the air segment.

Performance and Testing

The program met its KPPs for the air segment in December 2019. BE-E updated its operational requirements document in November 2022 to include requirements for the sea segment. This updated document included one new KPP and adjusted threshold and objective rates based on testing conducted for the air segment. Three KPPs for the sea segment—true acceptance rates, false acceptance rates, and system availability—remain the same from the air segment while adding interoperability as the new KPP. The true and false acceptance rates are measures of the biometric matching performance and provide confidence for records identification and detection of imposters. Additionally, the program plans to have six critical operational issues, such as the dependability and effectiveness of TVS. These issues help the program assess the system's ability to provide the intended capabilities.

According to CBP officials, follow-on test and evaluation from November through December 2022 determined that the program was cyber resilient. This assessment was in response to a prior test and evaluation event in August 2021, which found deficiencies in the program's cyber resiliency. CBP officials stated that the 2022 assessment evaluated two critical operational issues and concluded that the program met both.

BE-E underwent operational test and evaluation on the entry process of the sea segment from April to May 2023. The program was determined to be effective and suitable to support biometric processing during entry. Two recommendations were made including one to conduct follow-on operational test and evaluation to determine the program's capability to support the sea exit process. According to officials, the Director, Operational Test and Evaluation is working on the letter of assessment to support the program's next milestone.

Program Management

The program faces ongoing staffing gaps, which it is attempting to mitigate by using staff from other areas of CBP and leveraging contractor support where possible. CBP officials stated that they are working to hire two new staff and that the current staffing shortfall is not sustainable.

BE-E continues to use public-private partnerships at ports of entry to run the program. In May 2023, CBP officials told us that they had received an increase in commitment letters from airlines since the end of fiscal year 2022 and are seeing broader increases in program participation. CBP officials said that commitment letters are not a requirement for participation in the program and that many airports and airlines are participating without them.

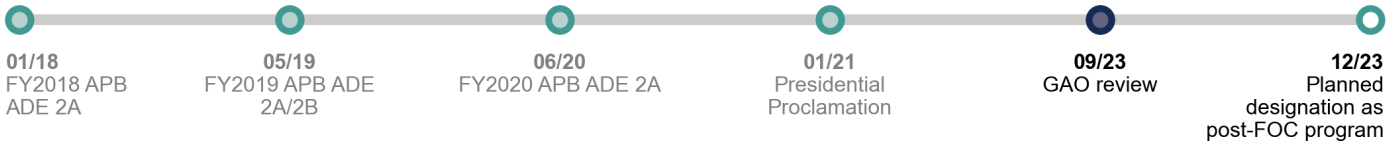
Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.

Border Wall System Program

BWSP was initiated in response to a January 2017 executive order. The border wall system was intended to prevent the illegal entry of people, drugs, and contraband by enhancing and adding to existing barriers along the U.S. southern border. The border enforcement zone was to include detection technology, surveillance cameras, lighting, and roads for maintenance and patrolling. The Department of Defense provided support and funding for infrastructure and barrier construction. The U.S. Army Corps of Engineers managed construction activities including engineering support and real estate acquisition. A January 2021 Presidential Proclamation directed officials to pause border barrier construction and obligation of funds to the extent permitted by law.

GAO-24-106573



Program Information

Component: U.S. Customs and Border Protection (CBP)

Acquisition type: Non-IT

Acquisition level: 1

Key performance parameters: testing of KPPs has not begun

Contracting approach: In 2023, BWSP awarded multiple award indefinite-delivery, indefinite-quantity contracts for border barrier construction and installation of system attributes. The program plans to award new contracts as projects are approved using previously appropriated funds.

Next major milestone: Transition to post- full operational capability program in December 2023

Key Findings

- **Cost and schedule**. In July 2023, DHS officials stated there was an agreement that BWSP would change from an acquisition program to a post-full operational capability prospective acquisition program. DHS policy states that post-full operational capability prospective acquisition programs extend the life of existing capital assets. This shift is planned to be documented by December 2023 in an acquisition decision memorandum, which should close out all remaining APBs.
- **Program management**. DHS reported that it continues to use funding appropriated for border barrier projects in accordance with its 2022 plan. For example, a new level 3 nonmajor acquisition program is planned for the Rio Grande Valley border barrier system, using $295.5 million in fiscal year 2019 funding.

BASELINE GOALS

DHS approved APBs for funding received in fiscal years 2018 and 2019 and a preliminary APB was approved by CBP's Component Acquisition Executive for funding received in fiscal year 2020. DHS received additional funding in fiscal year 2021 but did not develop an APB identifying the scope of work.

Source: GAO analysis of Department of Homeland Security information. | GAO-24-106573

Acquisition program baseline fiscal year	Baseline cost (millions)	Segment goal established (in approximate number of miles)
2018	$2,216	56 miles in the Rio Grande Valley 11 miles in San Diego
2019	$2,552	53 miles in the Rio Grande Valley
2020	$2,087	69 miles in Laredo

BORDER WALL SYSTEM PROGRAM

Cost and Schedule Status

In July 2023, DHS leadership directed the BWSP to transition from an acquisition program to a fielded operational activity. An acquisition decision memorandum designating the program as a post-full operational capability prospective acquisition program is expected be documented by the end of December 2023 and will close out the program's active APBs. According to DHS policy, post-full operational capability prospective acquisition programs extend the life of existing capital assets. As of June 2023, approximately $2.2 billion of $4.1 billion of appropriated funds remained available. CBP officials said ongoing activities will be transferred to CBP's Tactical Infrastructure program. This level 1 sustainment program was created in 2007 to provide the U.S. Border Patrol with maintenance of the tactical infrastructure portfolio, which includes border barriers and gates, lighting systems, and roads, among other things.

Program Management

In January 2021, a Presidential Proclamation paused construction of the border wall to the extent permitted by law. The proclamation also directed the Secretaries of Defense and Homeland Security, consulting with the Director of the Office of Management and Budget and other agencies, to develop a plan within 60 days for redirecting border barrier funding, as appropriate and consistent with applicable law.

DHS announced a plan in June 2021, outlining how DHS planned to use funds provided for the border barrier. According to DHS, the plan rescoped the program to focus on remediation and mitigation requirements. DHS took steps to implement the plan by suspending performance on border barrier construction contracts and construction activities, except for activities related to ensuring project sites were safe and secure. In 2021, CBP terminated all existing border barrier contracts located within the Laredo and Rio Grande Valley sectors, according to CBP officials.

DHS amended the plan in July 2022, stating its intention to prioritize the expenditure of fiscal year 2018 through 2021 appropriations to continue to address safety requirements; identify and address environmental damage from past barrier construction; and install barrier system attributes such as lighting, cameras, and detection technologies. According to DHS, there is sufficient work to expend that funding, including gaps and gates, environmental remediation, and system improvements.

DHS's fiscal year 2019 funds expired at the end of fiscal year 2023. In June 2023, DHS authorized CBP to move forward with the planning and execution of up to approximately 17 miles of border barrier system within the Rio Grande Valley Sector, using existing steel panels placed in concrete barriers. CBP planned to use $295.5 million in fiscal year 2019 funding to support a new level 3 nonmajor acquisition program for the Rio Grande Valley border barrier system.

DHS also authorized CBP to resume the Yuma Andrade and El Centro Calexico Fence Replacement Projects to mitigate immediate life, safety, and operational risks to the local community, migrants, and Border Patrol agents in the area. CBP continues to prioritize fence replacement and gap closure projects and work on non-barrier solutions to include deploying technology and other system elements in locations where barrier has been constructed. For example, in July 2023, BWSP awarded indefinite-delivery, indefinite-quantity contracts to five vendors to install system attributes, each with a maximum contract value of $4.1 billion.

According to agency officials, if a decision is made in the future to build additional border wall segments, those efforts would be expected to adhere to the management procedures and responsibilities in DHS's acquisition policy, as appropriate. DHS reported that it will not obligate the bulk of the remaining fiscal year 2021 funding on border barrier contracts until the necessary National Environmental Policy Act compliance and review process is complete.

CBP officials said the BWSP program manager will continue to provide DHS's acting Under Secretary for Management with quarterly status updates about the program.

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.

Common Operating Picture

COP aims to integrate U.S. Border Patrol sensor systems to provide an efficient method for viewing activity at U.S. borders and improve information management, situational awareness, and decision-making capabilities. COP will analyze sensor data to identify and classify detections as potential threats or items of interest. It will track movement of items of interest and send the data to U.S. Border Patrol enforcement systems. Border Patrol agents will use these data to inform their response and resolution, when necessary. The program is responsible for providing a software solution that can be integrated with existing and future sensors and any other IT required to be operated at the command and control facility.

Source: CBP. | GAO-24-106573

Program Information

Component: U.S. Customs and Border Protection (CBP)

Acquisition type: IT

Acquisition level: 2

Key performance parameters: Testing of program's 4 KPPs has not begun

Contracting approach: According to CBP officials, COP intends to leverage existing General Services Administration and strategic sourcing to pursue any necessary technology to include software development, servers, workstation hardware, and IT infrastructure upgrades for the command and control center.

Next major milestone: ADE 2A by March 2024

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.

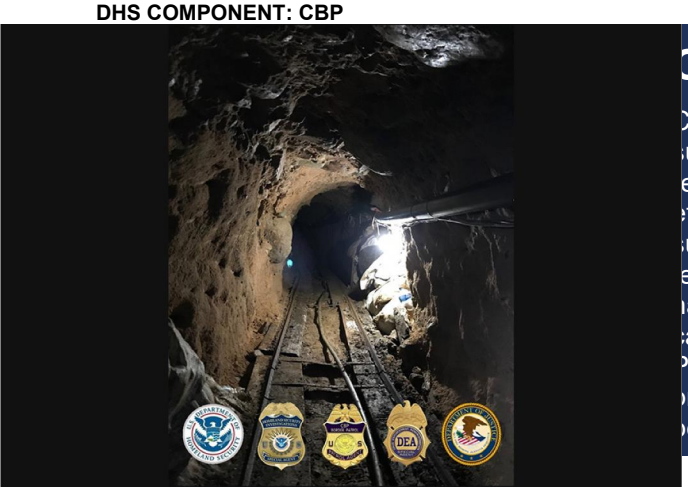
Current Status

In August 2021, DHS leadership approved COP's achievement of ADE 1. COP is planning to achieve ADE 2A by March 2024. CBP officials initially reported that life-cycle costs were potentially aligned with cost values of a level 3 nonmajor acquisition program. Further work on COP's cost estimate to support the ADE 2A decision confirmed that the program's costs aligned with that of a level 2 major acquisition program. In June 2023, DHS determined COP to be a level 2 program.

COP plans to provide a software solution that can be integrated across existing and new sensor systems and towers, which are managed separately by multiple U.S. Border Patrol programs. CBP acknowledged that it is accepting operational and cost risk by independently investing in separate programs that each depend on the success of the other. CBP is addressing integration risk through coordinated planning for acquisition, testing, and implementation between affected program managers, CBP's Office of IT, and the Lead Technical Authorities.

The program used $5 million in fiscal year 2022 funding to include COP in a pilot demonstration, with a focus on improvements for agents operating various sensor systems in command and control centers, among other activities. COP program officials completed a demonstration at the Douglas Station Command and Control center as part of the pilot in April 2023.

The COP program plans to conduct several activities as it progresses to the obtain phase. These include technology demonstrations with industry and the Army, and initiating cybersecurity planning.



Cross Border Tunnel Threat

CBTT is intended to help U.S. Customs and Border Protection monitor subsurface activity along the U.S. land border and to detect and remediate cross border tunnels. CBTT is comprised of two underlying efforts: Persistent Surveillance and Detection (PSD) provides continuous subsurface detection capability through permanently installed technology; and Mobile Detection Tunnel Toolkit (MDTT) is a suite of handheld and portable tools that provides enhanced detection capabilities for the local geology in areas with and without a deployed PSD system. The program is planning the two efforts separately until the program reaches initial operational capability and milestone events will be combined thereafter.

- **04/20** PSD ADE 2A
- **09/23** GAO review
- **12/23** PSD IOC
- **05/25** PSD/MDTT ADE 2B
- **03/26** PSD/MDTT ADE 3
- **03/31** PSD/MDTT FOC

Program Information

Component: U.S. Customs and Border Protection (CBP)

Acquisition type: Mixed (IT/non-IT)

Acquisition level: 1

Key performance parameters: Testing for the program's 5 KPPs has not begun

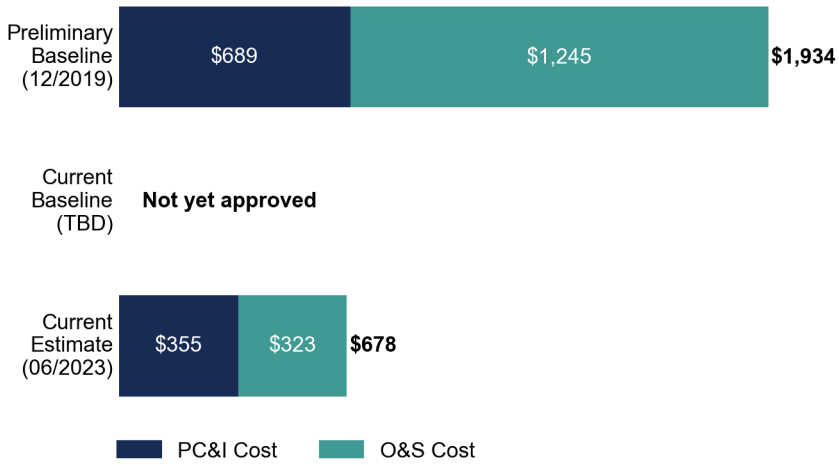
Contracting approach: As of 2020, contracts were awarded to three vendors that have the potential to meet persistent surveillance and detection program needs, according to CBP officials and a DHS memorandum. CBTT plans to review the three vendors' offered solutions and select one for award of the PSD production contract. CPB officials noted that this strategy could change prior to ADE 2B.

Next major milestone: Initial operational capability for PSD by December 2023

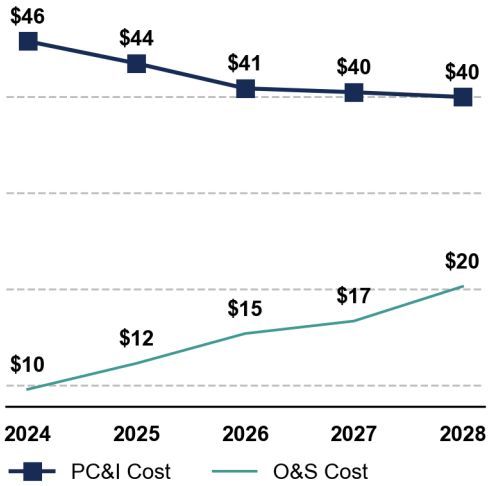
Key Findings

- **Cost and schedule.** CBTT's current life-cycle cost estimate is $678 million and it does not yet have a DHS-approved APB. Since last year, CBTT officials updated the program's schedule and delayed initial operational capability for PSD by approximately 9 months. CBP officials told us that all the following milestones were shifted accordingly. Initial operational capability was delayed because the remaining miles of PSD were not completed as planned.
- **Performance execution**. CBTT officials still plan to conduct testing through 1-year operational use periods. Those officials told us that the 1-year operational use periods faced delays in PSD system installation and had issues with system performance, which postponed the start of the operational use periods. The program's five KPPs have not been tested yet. Officials told us that CBTT is planning to add an additional KPP for MDTT.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



CROSS BORDER TUNNEL THREAT

Cost and Schedule Status

In December 2022, CBP revised the program's preliminary baseline to reflect changes to the scope of the program. DHS leadership previously approved ADE 2A for PSD in April 2020, and authorized the deployment of its tunnel detection capability technologies along 6 miles of the highest priority sectors of the southwest border to reach initial operational capability for PSD. The revised preliminary baseline extended the time frames to reach initial operational capability and decreased the required mileage of system installation and operation needed to achieve full operational capability. The decrease from 99 to 36 miles is based on actual tunnel operational metrics and intelligence gathered. CBP officials told us that the PSD system installation is expected to be completed by December 2023, 7 months later than planned due to software upgrades and a catastophic storm that damaged equipment. Further deployments to support full operational capability will require updates to key program acquisition documents and DHS approval in order to proceed.

The revised preliminary baseline also includes MDTT. CBP officials told us that the program plans to hold ADE 2A for MDTT by January 2024. CBTT officials plan to achieve initial operational capability (two tool kits) by September 2024 and final operational capability (six tool kits in total) by September 2025. After PSD and MDTT each reach initial operational capability, the program plans to move toward a combined ADE 2B.

The overall costs for the program, reflecting changes to program scope in the revised preliminary baseline (reduction in PSD mileage and addition of MDTT), were reduced by more than half. However, funding for the CBTT program is not fully planned in DHS's budget and the program is taking steps to mitigate funding shortfalls. For example, CBP officials reported that the program is pursuing a phased approach to reach full operational capability and can adjust the program schedule to mitigate funding shortfalls until full operational capability has been achieved.

Performance and Testing

According to CBP officials, because the PSD systems' installation has not been completed, none of the KPPs for PSD have been tested. We previously reported that the operational use period for PSD began in October 2021. Operational use periods allow CBP to collect feedback on the PSD systems before selecting one of the three vendors for the production contract. However, in September 2023, CBP officials told us that the segment 1 operational use period was delayed due to degredation in system performance and reliability. Further, due to delays in system installation, the additional operational use periods were also delayed. The operational use period for all CBTT systems will begin once all PSD systems are installed, according to CBP officials. For MDTT, CBP officials noted that they plan to add an additional KPP, pending approval at ADE 2A. These officials also noted that the MDTT testing and evaluation strategy is a continuous approach consisting of a 12-month Observational User Evaluation. Initial operational testing and evaluation will then be conducted to fill in any gaps.

Program Management

According to officials and documentation, the program plans to select one of three vendors that were identified as having the potential to meet program needs as part of ADE 2B to continue the program. CBP officials noted that this acquisition strategy could change prior to ADE 2B.

In addition, CBTT officials told us that they continue to streamline the CBTT staffing approach in accordance with the program's budget constraints.

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.

ntegrated Surveillance Towers

n March 2022, the IST program consolidated four legacy surveillance ower systems under a single program: Autonomous Surveillance Towers AST); Integrated Fixed Towers (IFT); Remote Video Surveillance ystem Upgrade (RVSS-U); and the Northern Border RVSS (NB-RVSS). urveillance towers detect items of interest and send data through a ecure network at a Border Patrol command and control center. IST will ontinue to procure, deploy, and maintain tower systems approved under he legacy programs. Additional deployments will be approved under the ew program. CBP aims to integrate data from all sensors through the .S. Border Patrol's Common Operating Picture (COP) program to mprove decision-making capabilities.

03/22 IST program of record established

09/23 Awarded multiple award contract

09/23 GAO review

03/24 Anticipated approval of consolidated baseline

03/34 FOC

Program Information

Component: U.S. Customs and Border Protection (CBP)

Acquisition type: Mixed (IT/non-IT)

Acquisition level: 1

Quantities delivered: AST (244); IFT (50); RVSS-U (166); NB-RVSS (30)

Key performance parameters: 3 out of 3 met for IFT and RVSS; testing of KPPs has not begun for future IST deployments

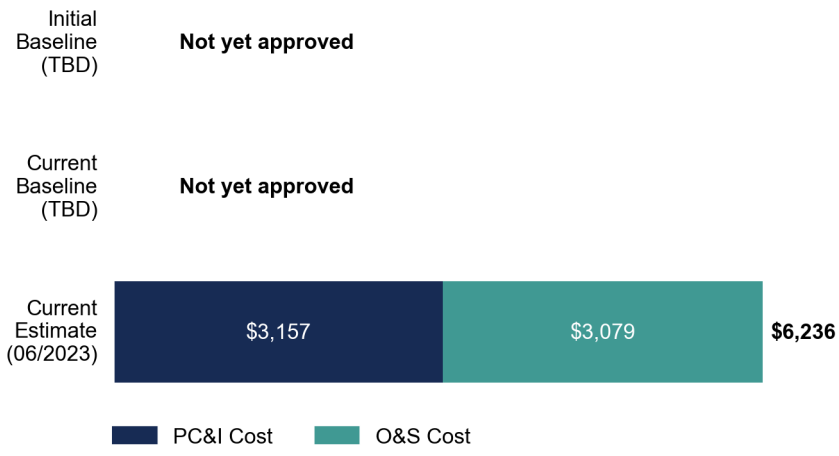
Contracting approach: IST awarded a new multiple award indefinite-delivery, indefinite-quantity contract in September 2023 for hardware procurement, deployment, and integration.

Next major milestone: DHS to approve an acquisition program baseline by the end of March 2024

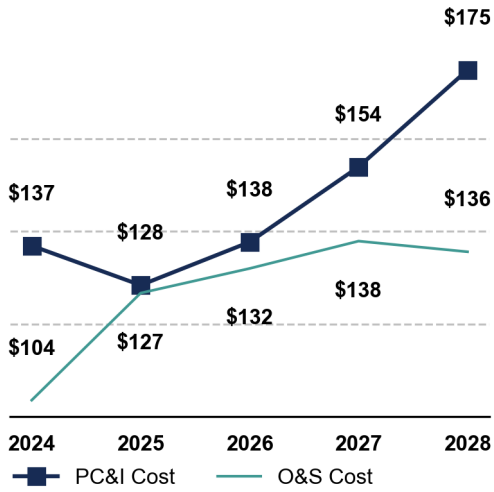
Key Findings

- **Cost and schedule**. DHS approved the purchase of 133 towers beyond the 825 authorized under the legacy programs. These towers will be included in the IST acquisition program baseline, which is expected to be approved by late March 2024. IST received funding in fiscal year 2023. The program plans to delay investments beyond those currently approved and budgeted for. Further, CBP officials said the program expects O&S shortfalls of 23 percent in fiscal year 2024 and 36 percent in fiscal year 2025, which could increase the risk of obsolescence and existing towers being nonoperational.
- **Program management**. The IST program continues to work with COP program officials to mitigate risks associated with IST's required integration with COP software. The September 2023 contract award provides for this software integration, as well as hardware procurement and deployment.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



INTEGRATED SURVEILLANCE TOWERS

Cost and Schedule Status

DHS approved IST as a new program of record in March 2022 to procure and deliver previously approved deployments and conduct sustainment for 825 legacy towers. DHS approved the purchase of 133 additional towers beyond those authorized under the legacy programs in fiscal year 2022 and 2023. Specifically, in May 2022, DHS approved CBP's request to purchase up to 67 ASTs with the $62.8 million the program received in fiscal year 2022. In June 2023, DHS approved CBP's request to purchase up to 51 additional ASTs with $47.2 million in fiscal year 2023 funding. DHS also approved the purchase of up to 15 towers with $5 million in prior year funding once the program's new multiple award contract to support procurement and deployment is awarded. All additional towers will be included in the program's new baseline, which is expected to be approved before the end of March 2024. All future investments and deployments will require Acquisition Review Board approval.

IST told us the program received $68 million in PC&I and $91 million in O&S funding during fiscal year 2023. Funding, however, continues to be a risk for the program. Without additional funding, the program plans to delay investments beyond those currently approved and budgeted for, until fiscal year 2029. Further, the program faces O&S budget shortfalls of 23 percent in fiscal year 2024 and 36 percent in fiscal year 2025, according to CBP officials. This limits the program's ability to conduct technology refreshes on and repair towers that fail and could increase the risk of obsolescence and towers being nonoperational.

Performance Execution

DHS approved IST's operational requirements document in November 2021, which identifies three KPPs for detection, availability, and data transmission rate. IST is post-ADE 3 and will not develop or procure any new capabilities beyond those in existing tower configurations. As a result, CBP officials plan to conduct system qualifications and acceptance testing against functional requirements to support future investment and deployment decisions. IST's test strategy, approved in November 2022, identifies test activities to manage technical risks associated with integration between the IST and COP programs, which are managed separately.

IST has taken steps to address cyber resilience. According to IST's test strategy, program officials plan to implement a cybersecurity test strategy and continuous monitoring process to ensure that cyber resiliency is built into IST's design. According to program officials, IST contractors will submit system security plans to implement and maintain security controls of IST systems. These plans are to provide the information needed for an authorizing official to render a security accreditation decision for IST systems.

Program Management

IST's required integration with the COP program remains at risk. IST will transmit items of interest data to COP, where operators will classify the threat level and communicate with Border Patrol agents so they respond accordingly. COP must be interoperable with IST sensors prior to the system acceptance test to ensure IST tower deployments occur on schedule. The IST program manager told us about continuing to work closely with the program's COP counterparts to ensure that schedules and funding are aligned for successful integration. IST awarded a new indefinite-delivery, indefinite-quantity multiple award contract in September 2023 to support procurement, deployment, and integration of hardware. According to CBP officials, the contract will support integration of IST sensors into COP software prior to installation on towers in the field and 2 months of technical support.

According to the IST program manager, IST program officials are locating towers strategically. For example, ease of access and willingness of property owners are key factors when considering sites for tower placement. The program manager stated that sites in the Laredo and Rio Grande Valley sectors, however, are still challenging because these areas need permissions from multiple landowners and road access may be an impediment.

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.

Light Enforcement Platform

The LEP program plans to provide CBP's Air and Marine Operations (AMO) with additional light enforcement aircraft to include rotary wing, fixed wing, and uncrewed capabilities. AMO currently has a fleet of 120 single-engine crewed aircraft that aid in conducting airborne surveillance and transportation activities along the northern and southern U.S. borders. LEP plans to address coverage gaps in the U.S. southwest border and northern border. In addition, LEP expects to deliver critical sensors, interoperability, and cybersecurity capabilities within the existing light aircraft fleet. LEP is currently focused on standardizing rotary wing aircraft capabilities and gradually replacing the aging light enforcement helicopter fleet.

Source: AMO. | GAO-24-106573

Program Information

Component: U.S. Customs and Border Protection (CBP)

Acquisition type: Non-IT

Acquisition level: 1

Key performance parameters: KPPs not yet tested

Contracting approach: The program is taking steps to acquire standardized commercial off-the-shelf rotary wing aircraft from the General Services Administration federal supply schedules, using limited sourcing. The acquisition may include multiple contracts to purchase a variety of aircraft types. Additional aircraft types, other than rotary wing aircraft, may be purchased through full and open competition.

Quantity: Acquisition of 58 new rotary wing aircraft for total of 84 helicopters required for full operational capability

Next major milestone: ADE 2A decision by December 2023

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.

Current Status

In July 2021, DHS acknowledged the LEP program's achievement of ADE 1. The program's analysis of alternatives considered the capabilities and quantities of crewed and uncrewed aircraft that can collectively meet mission requirements. AMO prioritized the rotary wing as the first of the three platforms to be acquired based on the analysis results.

CBP's current light enforcement helicopter fleet includes 24 H125 helicopters with two final H125s expected to be delivered by end of the year. The 26 helicopters will count toward the full operational capability requirement of 84 helicopters. H125 is the rebranded name for the legacy AS350. Currently, AMO has 73 active AS350 that the LEP program plans to gradually replace to introduce standardized aircraft with more capabilities. The existing H125 aircraft performed best out of three other baseline rotary wing platforms when assessed for effectiveness and had significant performance differences for special techniques, communications, and safety. CBP plans to acquire new H125 aircraft commercial variants that will have features, such as crash resistant fuel tanks and autopilot capabilities, in addition to the critical sensors, interoperability, and cybersecurity capabilities. The strategy to acquire additional quantities of the H125 aircraft variants instead of a different platform is expected to save the program over $80 million in training and new spare parts over the program's life cycle. The program estimated the savings based on the costs to train AMO's light helicopter pilots on an additional airframe over the course of the program's life cycle. CPB officials said the fixed wing and uncrewed aircraft will have separate schedules and acquisition decision events.

The LEP program manager said LEP is on track to achieve ADE 2A for the rotary wing aircraft by December 2023. The program placed a delivery order in September to obtain rotary wing aircraft ahead of ADE 2A to address the operational safety issues associated with fuel tanks that are not crash resistant. CBP officials stated they are hiring more federal employees to support LEP's acquisition planning. The LEP program manager said the program is currently using support staff from CBP headquarters to fill staffing gaps.

Medium Lift Helicopter

U.S. Customs and Border Protection uses MLH for law enforcement and border security operations; air and mobility support and transport; search and rescue; and other missions. The MLH fleet consists of 35 aircraft acquired from the U.S. Army in three different models (UH-60A, UH60-M, and HH-60L). CBP previously acquired four modern UH-60M aircraft and converted six of its 16 older UH-60A aircraft into more capable UH-60L models. It is also acquiring 15 reconfigured Army HH-60L aircraft—to be converted into the UH-60L model—and pursuing a replacement solution for the remaining 10 UH-60A.

Program Information

Component: U.S. Customs and Border Protection (CBP)

Acquisition type: Non-IT

Acquisition level: Level 1

Key performance parameters: 5 of 5 KPPs met

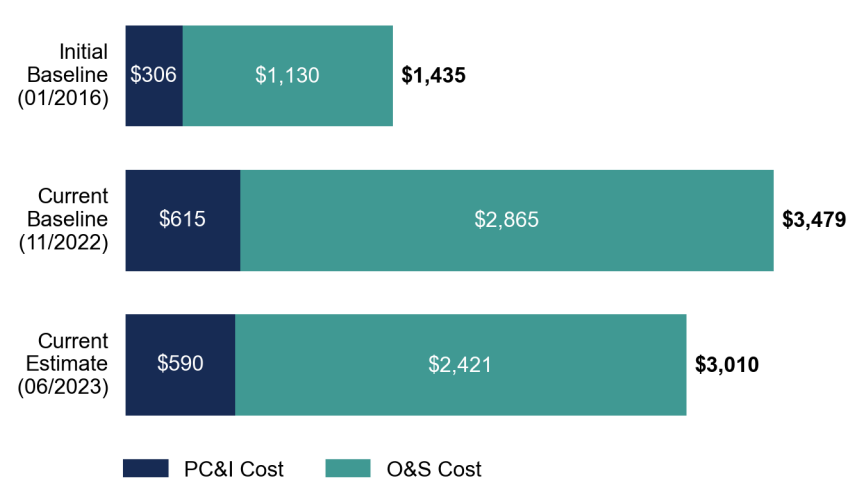
Contracting approach: The program has an interagency agreement with the Army to convert aircraft and provide logistical and sustainment support for the entire fleet. Officials reported all Army-awarded contracts for the MLH program are cost-plus-fixed-fee.

Next major milestone: Full operational capability for 35 aircraft by September 2028

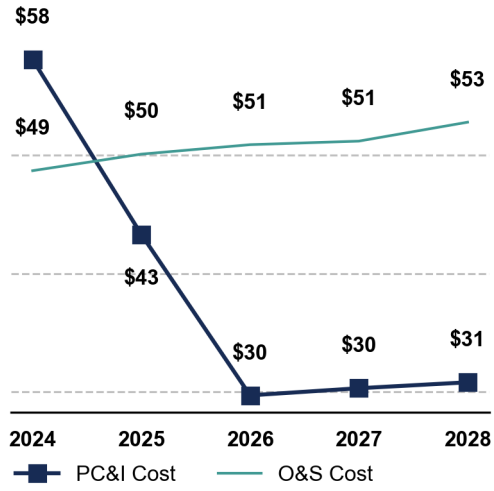
Current Status

In November 2022, DHS approved the program's revised acquisition documentation to formally rebaseline the program's full operational capability quantity from 20 to 35 aircraft and baseline cost estimate from $1.4 to $3.5 billion. In May 2023, the program revised its operational requirements document to ensure the full operational capability date was consistent with the approved rebaseline. As of September 2023, the program had accepted delivery of seven of the reconfigured HH-60L aircraft, but supply chain and design changes have delayed the delivery of the remaining aircraft. To account for any possible future supply chain issues, the program added 30 days of margin for the additional five aircraft it is reconfiguring to achieve the increased full operational capability quantity. The program plans to receive the 15th converted aircraft by September 2028, when it will reach full operational capability.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.

Multi-Role Enforcement Aircraft

MEA are fixed-wing, multi-engine aircraft that can be configured to perform multiple missions, including maritime, air, and land interdiction as well as signals detection to support law enforcement. Each MEA is equipped with a search radar and an electro-optical/infrared sensor to support maritime surveillance and airborne and land tracking missions. MEA are being acquired in four different configurations, each with its own acquisition milestones. The MEA are intended to replace CBP's fleet of aging C-12, PA-42, and BE-20 aircraft.

- **01/16** ADE 2B
- **02/19** Program rebaseline for increased quantities
- **09/19** Air interdiction ADE 3
- **01/22** Land interdiction ADE 2A
- **08/23** Air interdiction FOC
- **09/23** GAO review
- **12/23** Land interdiction ADE 2B
- **12/27** Land interdiction FOC

Program Information

Component: U.S. Customs and Border Protection (CBP)

Acquisition type: Non-IT

Acquisition level: 1

Key performance parameters: Maritime Interdiction (MI): 5 of 5 met; Air Interdiction (AI): 2 of 2 met; Land Interdiction (LI): Testing of 4 KPPs has not begun

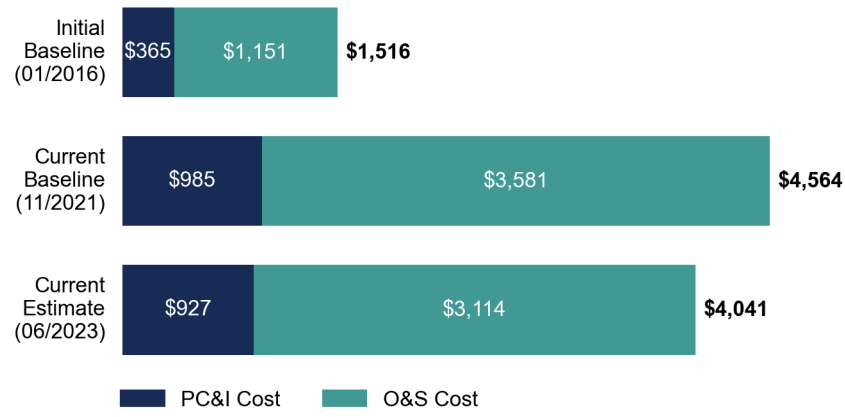
Contracting approach: The program awarded an indefinite-delivery, indefinite-quantity contract to Science and Engineering Services for production of the LI aircraft in September 2022.

Next major milestone: ADE 2B by December 2023

Key Findings

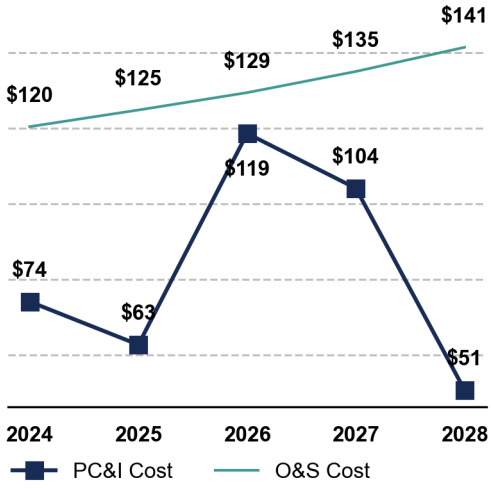
- **Schedule.** The MEA program received ADE 2A approval for six LI aircraft in December 2021 and awarded the LI contract in September 2022. The program anticipates establishing its formal cost and schedule baselines for the LI configuration after its December 2023 planned ADE 2B date, in part because of staffing challenges. All 13 AI aircraft have been delivered and the configuration achieved full operational capability in May 2023.
- **Testing.** In March 2023, DHS's Director, Office of Test and Evaluation determined that the AI configuration was operationally cyber resilient with limitations. Flight testing of the LI aircraft configuration is expected to begin in December 2025, but the program is finalizing its testing strategy.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



Note: Current baseline includes preliminary estimates for Land Interdiction configuration.

ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



MULTI-ROLE ENFORCEMENT AIRCRAFT

Cost and Schedule Status

In November 2021, DHS leadership approved the program's revised APB, which included six LI aircraft in addition to the previously approved 16 MI and 13 AI aircraft, for a total of 35 MEA. DHS leadership subsequently granted the program ADE 2A approval for the LI configuration, authorizing the program to award the production contract and procure up to three of the six approved LI aircraft. The program awarded an indefinite-delivery, indefinite-quantity contract to Science and Engineering Services in September 2022. CBP officials said they expect delivery of the first LI aircraft in fiscal year 2025. The program accepted delivery of all 13 AI aircraft and reached full operational capability for this configuration in August 2023.

The program last updated its life-cycle cost estimate in May 2021 to include the preliminary costs for the addition of the LI aircraft. The program previously projected a funding shortfall between its budget and cost estimate. However, CBP officials said the program's procurement strategy changed to acquire one aircraft per year and they received funding in fiscal year 2023 to procure the second LI aircraft. The program plans to update its life-cycle cost estimate by March 2024.

CBP will establish formal cost and schedule baselines for the LI configuration at ADE 2B, which was expected to occur by December 2023. However, in August 2023, CBP officials said that ADE 2B will likely move to February 2024 because the program has been mitigating staffing shortfalls, which resulted in delays to updating its supporting acquisition documentation.

Performance and Testing

In April 2016, CBP identified capability needs in three additional mission areas and proposed increasing the program's quantity to include additional configurations. The Joint Requirements Council endorsed CBP's findings but recommended that CBP develop requirements documents for each configuration. In response, CBP developed an operational requirements document in 2019 to include 13 AI aircraft, and another in 2020 to include six LI aircraft. The Joint Requirements Council validated the documents in December 2018 and February 2021, respectively. In April 2022, CBP officials stated that they planned for the signals detection aircraft requirements to be completed in fiscal year 2025.

The program previously met all five of its KPPs for the MI configuration related to interdiction, air mobility, and mission system integration and operation. The program established two additional KPPs for the AI configuration, which have been met, and four additional KPPs for the LI configuration related to radar detection. The program is tracking risks related to land radar performance and integration of the mission module system with contractor furnished aircraft, including sensors and equipment. In August 2023, CBP officials said the LI vendor and mission system owner were frequently collaborating to minimize integration risks.

The program initiated a two-phased follow-on operational test and evaluation effort in May 2019. During the first phase, the program demonstrated that it met the two AI KPPs. The second phase of this testing was intended to assess cyber resiliency. CBP's independent test agent completed cyber resiliency testing on the AI aircraft in August 2022 and identified several recommendations to improve MEA cyber resiliency. In March 2023, DHS's Director, Office of Test and Evaluation determined the AI aircraft were operationally cyber resilient with limitations. The Director recommended that CBP address the test agent's findings and develop a policy for coordinating with the developer for the MEA mission system on the implementation and assessment of cyber requirements. CBP accepted all of the independent test agent's recommendations and documented the actions it planned to take to address them in September 2023.

In December 2021, DHS Science and Technology directorate officials conducted a technical assessment to inform the ADE 2A decision for the LI configuration. Officials recommended that the program prioritize and improve its risk management processes; document how the sensors and mission system are integrated into the aircraft to better inform requirements and system design; and trace operational requirements to capability gaps to ensure solution capabilities address mission needs. The program plans to begin flight testing of the LI configuration by December 2025 but is still finalizing its testing strategy.

Program Management

In August 2023, CBP officials said they were taking action to mitigate staffing gaps. For example, officials told us they hired a cost estimator and awarded a contract for cost estimating support services in March 2023. CBP officials also stated that they were approved to fill additional staffing billets and were working with human resources to fill these positions.

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.

Non-Intrusive Inspection Integration

NII Integration aims to connect and integrate NII scanning units with other CBP law enforcement tools to increase scanning volume and detection effectiveness. CBP uses large- and small-scale scanning units at land, sea, and air ports of entry. These units examine containers, railcars, passengers, and other items to prohibit potential threats or contraband from entering the U.S. The legacy system architecture operates as a stand-alone scanning capability limited by low-volume and targeted scanning. The program plans an incremental approach for land, sea, and air operational environments. Program scope includes recapitalization of legacy systems and procurement of new systems.

09/22
NII Integration
ADE 2A

09/23
GAO review

TBD
NII Integration
ADE 2B

09/30
NII Integration
FOC

Program Information

Component: U.S. Customs and Border Protection (CBP)

Acquisition type: Mixed (IT/Non-IT)

Acquisition level: 1

Key performance parameters: Testing of program's 4 KPPs has not begun

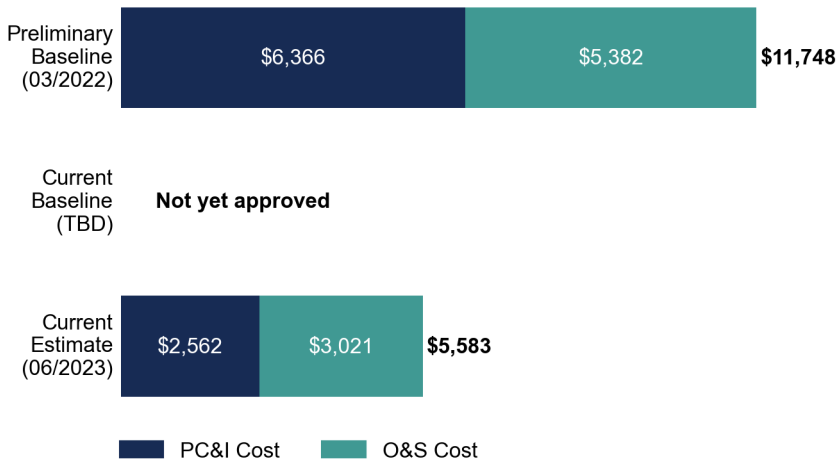
Contracting approach: NII Integration issued a solicitation using commercial solutions opening procedures in fiscal year 2023 to support autonomous image analysis. According to officials, the program plans to use existing technology for a Common Viewing Platform.

Next major milestone: ADE 2B TBD

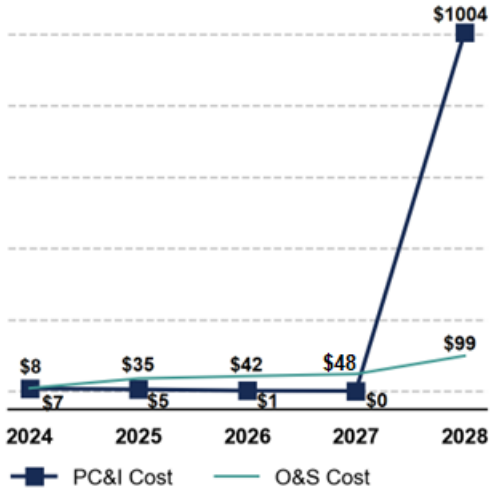
Key Findings

- **Cost and schedule.** According to CBP officials, the program initially planned to achieve ADE 2B by March 2025 but is developing a new schedule as it revisits requirements and the deployment strategy. Program funding continues to be budgeted under the legacy NII Systems program, and additional funding is not expected to be requested until fiscal year 2025.
- **Performance execution.** NII Integration completed its operational requirements document in September 2022, but is working to update some requirements.
- **Program management.** CBP is developing a strategy to merge programs from NII Integration and the legacy NII Systems to streamline future funding and simplify management. CBP has also taken steps to address ongoing staffing shortages.

BASELINE AND CURRENT COST ESTIMATES dollars in millions



ESTIMATED PROGRAM COSTS FOR FY 2024-2028 dollars in millions



NON-INTRUSIVE INSPECTION INTEGRATION

Cost and Schedule Status

In November 2022, DHS approved ADE 2A for NII Integration, which identified the preliminary cost and schedule baselines. The program initially planned to achieve ADE 2B for the land, sea, and air environments by March 2025. However, CBP officials stated that the program is planning a new schedule as it works to complete the developmental activities needed to progress toward ADE 2B. These activities include updating program requirements and reevaluating the deployment strategy.

NII Integration does not have its own funding profile and is using funding budgeted for the legacy NII Systems program. Additional PC&I funding is not projected to be requested until fiscal year 2025 and the program documented that funding remains a top risk. According to CBP officials, current funding is focused on meeting the increased infrastructure costs related to the installation of NII technology in the field. Further recapitalization efforts of NII systems are on hold until additional funding becomes available through the budget process. According to CBP officials, there is an increase in estimated PC&I costs in fiscal year 2028 because there are no current funding sources identified.

Performance Execution

Completed in September 2022, NII Integration's operational requirements document includes four KPPs. Two of the KPPs focus on transmission of data, one on the rate of scans, and one on cyber resiliency.

The scope of NII Integration and its requirements is an ongoing discussion for the program. DHS test and evaluation officials stated that they have concerns about the clarity of program scope and the sufficiency of operational requirements language related to the test and evaluation strategy. These officials expect the program to provide additional details on test and evaluation planning and execution as it defines new capabilities and concepts mature. CBP officials stated that the program is currently working to refine and update the requirements in the operational requirements document and plan to brief the Acquisition Review Board on the changes in fiscal year 2024.

Program Management

CBP officials stated that they are currently developing a strategy to merge NII Integration and the legacy NII Systems programs into one program to help streamline future funding sources and simplify management.

CBP officials reported that CBP has taken action to address ongoing staffing challenges. For example, program officials reported that the division that NII Integration falls under recently underwent a reorganization, which resulted in program management efficiencies. Additionally, officials stated that elevating the lead business authority position to a leadership role through the reorganization has helped the program coordinate and cooperate with other CBP offices that are involved in the planning, design, and development process. Program officials shared that they rely on matrixed staff from other CBP offices and contractors to fill vacant positions that existed prior to the reorganization. CBP officials shared that they intend to hire systems engineers and cost estimating specialists to prepare for the program's future.

In June 2022, NII Integration issued a request for information for the Anomaly Detection Algorithm (previously named Automated Threat Recognition). The program then released a solicitation using commercial solutions opening procedures for the Anomaly Detection Algorithm in April 2023 and officials stated this resulted in the award of two contracts in September 2023. The goal is to have an open-source platform that supports autonomous NII image analysis to increase the effectiveness and efficiency of NII operations. According to CBP officials, once the program chooses a vendor for the Anomaly Detection Algorithm, it will have a test environment to start training artificial intelligence algorithms. The program previously worked on a request for information for the Common Viewing Platform; however, CBP officials stated that they decided to review what current technologies already exist and leverage some internal systems.

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.

Appendix II: Objectives, Scope, and Methodology

The objectives of this audit were designed to provide congressional committees insight into the Department of Homeland Security's (DHS) major acquisition programs. We assessed the extent to which selected DHS major acquisition programs are meeting their baseline cost, schedule, and performance goals. We also described reasons why a program is not meeting a baseline goal.

To address these objectives, we selected 26 of DHS's 36 major acquisition programs.[1] We selected 18 of DHS's level 1 acquisition programs—those with life-cycle cost estimates of $1 billion or more at the initiation of our audit in January 2023. Fifteen of those 18 programs had at least one project, increment, or segment in the obtain phase—the stage in the acquisition life cycle when programs develop, test, and evaluate systems—at the initiation of this audit. We therefore focused on these 15 level 1 programs. Additionally, we reviewed 11 other level 1 or level 2 major acquisition programs that we identified as at risk of not meeting their cost estimates, schedules, or capability requirements, based on our past work. We excluded the remaining 10 major acquisition programs for a variety of reasons, including lower risk programs already in deployment.

We met with representatives from DHS's Office of Program Accountability and Risk Management—DHS's main body for acquisition program oversight—as a part of our scoping effort to determine which programs, if any, were facing difficulties in meeting their cost, schedules, or capability goals. The 26 selected programs were sponsored by six different components, and they are identified in table 5, along with our rationale for selecting them.

[1]Our review included 22 of the 29 programs that we reviewed in GAO, DHS Annual Assessment: Most Acquisition Programs Are Meeting Goals Even with Some Management Issues and COVID-19 Delays, GAO-22-104684 (Washington, D.C.: Mar. 8, 2022).

Table 5: GAO's Rationale for Selecting DHS Major Acquisition Programs for Review

Component	Program	Level 1 program in the obtain phase at the initiation of GAO's review	Level 1 or level 2 program identified to be at risk[a]
Cybersecurity and Infrastructure Security Agency	Continuous Diagnostics and Mitigation	X	—
	National Cybersecurity Protection System	—	X
	Next Generation Network Priority Services Phase 1	—	X
	Next Generation Network Priority Services Phase 2	—	X
Federal Emergency Management Agency	Enterprise Data and Analytics Modernization Initiative	—	X
	Grants Management Modernization	—	X
	Integrated Public Alert & Warning System	—	X
Management Directorate	Homeland Advanced Recognition Technology	X	—
Transportation Security Administration	Checkpoint Property Screening System	—	X
	Credential Authentication Technology	—	X
U.S. Coast Guard	Long Range Surveillance Aircraft	X	—
	Medium Range Recovery Helicopter	X	—
	Medium Range Surveillance Aircraft	X	—
	Offshore Patrol Cutter	X	—
	Polar Security Cutter	X	—
	Waterways Commerce Cutter	X	—
	270' Medium Endurance Cutter Service Life Extension Program	X	—
U.S. Customs and Border Protection	Automated Commercial Environment	X	—
	Biometric Entry-Exit	X	—
	Border Wall System Program	X	—
	Common Operating Picture	—	X
	Cross Border Tunnel Threat	X	—

Component	Program	Level 1 program in the obtain phase at the initiation of GAO's review	Level 1 or level 2 program identified to be at risk[a]
	Integrated Surveillance Towers	—	X
	Light Enforcement Platform	X	—
	Medium Lift Helicopter	—	X
	Multi-Role Enforcement Aircraft	X	—
	Non-Intrusive Inspection Integration	X	—

Legend: X = applicable rationale ; — = not applicable

Source: GAO analysis of Department of Homeland Security (DHS) data. | GAO-24-106573

[a]Programs with Xs in this column are either level 2 programs in the obtain phase or level 1 and level 2 programs that GAO identified as at risk of not meeting their cost estimates, schedules, or capability requirements based on GAO's past work.

To determine the extent to which DHS's major acquisition programs are meeting their cost, schedule, and performance goals, we collected key acquisition documentation for each of the 26 programs. This included life-cycle cost estimates, test and evaluation master plans, and acquisition program baselines (APB) approved at the department level since November 2008, when DHS's acquisition management policy went into effect. DHS policy establishes that all major acquisition programs should have a department-approved APB—which establishes a program's critical cost, schedule, and performance parameters—at acquisition decision event 2B. Seventeen of the 26 programs had one or more department-approved life-cycle cost estimates and APBs between November 2008 and our cut-off date of September 30, 2023. We excluded the nine programs without department-approved APBs from our portfolio-level analyses.[2] We determined that another of the 26 programs, the Border Wall System Program, should also be excluded from our aggregated analyses, due to the January 2021 Presidential Proclamation directing a pause in the construction of the border wall to the extent permitted by law. Ultimately, we included 16 of the 26 programs in our portfolio analysis. However, all 26 programs are included in appendix I.

[2]The remaining nine programs—Common Operating Picture, Cross Border Tunnel Threat, Enterprise Data and Analytics Modernization Initiative, Integrated Surveillance Towers, Light Enforcement Platform, Medium Range Recovery Helicopter, Next Generation Network Priority Services Phase 2, Non-Intrusive Inspection Integration, and Waterways Commerce Cutter—did not receive department approval of their initial APBs by September 30, 2023. Therefore, we excluded them from our assessment of whether programs are on track to meet their schedule and cost goals during fiscal year 2023.

We used APB documentation and data provided by the program offices to identify the initial and current cost and schedule goals for the programs. Costs shown are based on the program's APB threshold costs and are presented in then-year dollars. DHS's documentation used a mixture of base-year and then-year program costs reflecting DHS policy changes over time. When APB costs were presented in acquisition program baselines in base-year dollars, program officials converted them to then-year dollars for the purposes of our report. We did not assess their methodology. DHS officials from the following programs converted baseline costs from base-year to then-year dollars:

- 270' Medium Endurance Cutter Service Life Extension Program
- Biometric Entry-Exit
- Border Wall System Program
- Checkpoint Property Screening System
- Credential Authentication Technology
- Grants Management Modernization
- Homeland Advanced Recognition Technology
- Medium Lift Helicopter
- Multi-Role Enforcement Aircraft
- Medium Range Recovery Helicopter (MH-60T)
- Medium Range Surveillance Aircraft (HC-144B & HC-27J)
- Next Generation Network-Priority Services Phase 2
- Offshore Patrol Cutter
- Polar Security Cutter

For the purposes of this review, we generally used the date that DHS leadership signed the relevant acquisition decision memorandum to signify the date of an event, including acquisition decision events. We did

so to address instances in which leadership approval did not occur on the date of the Acquisition Review Board or other meeting described in the memorandum. We used a questionnaire sent to program offices to collect standardized information about cost, schedule, and performance activities.

To determine how many programs did not meet or adjusted their baselines, we reviewed breach, rebaseline, and baseline adjustment memorandums, and conducted interviews. We reviewed additional program documentation to confirm that these programs received approval to adjust their baselines and to determine the cost and schedule effects of those adjustments.

To determine programs' efforts to mitigate COVID-19-related cost and schedule effects, we determined which programs had requested cost and schedule relief under the July 2022 DHS memorandum. This memorandum granted level 1 and selected level 2 programs the ability to adjust their APB schedule baseline goals up to 6 months (or more with leadership approval) due to COVID-19 effects. Programs were to submit their requests by September 30, 2022 and the Office of Program Accountability and Risk Management was to attach a cover memorandum to each affected APB that documents the cost and schedule milestone changes and the description of effects by October 31, 2022. We reviewed baseline adjustment memorandums, conducted interviews, and reviewed additional program documentation to confirm that these programs received approval to adjust their baselines and to determine the cost and schedule effects of those adjustments.

We also met with program officials to identify causes and effects associated with any identified schedule and cost goal changes. To determine the extent to which programs were meeting performance goals, we requested information from each individual program and DHS's test and evaluation officials. We used standardized questionnaires given to each acquisition program to obtain information about key performance parameters and if they have been met or changed since our last review. We requested and received information from DHS's test and evaluation officials about programs that had completed testing of deployed capabilities and had key performance parameters that were generally met. These officials also provided information in response to our request for the status of each program's cyber resilience testing.

To understand program estimated life cycle costs at a broader level, we collected key acquisition documentation for each of the 26 programs. This

included all life-cycle cost estimates approved at the department level since DHS's acquisition management policy went into effect in November 2008. We used the life-cycle cost estimate documentation from June 2023, compiling all programs information into a single infographic. In addition, illustrating comparative total costs across programs, we also grouped the programs by their respective DHS component to show the comparative weight of each component on total estimated program costs.

Subsequently, we drafted preliminary assessments for each of the 26 programs. When drafting these assessments, we used either a one- or two-page format based on the program's status. We used a one-page assessment format for those programs that had not yet achieved acquisition decision event 2B, or if the program had completed operational test and evaluation and was meeting all key performance parameters. After drafting the assessments, we shared them with program and component officials and gave those officials an opportunity to submit comments to help us correct any inaccurate or outdated information, or clarify, as appropriate.

We conducted this performance audit from January 2023 to February 2024 in accordance with 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.

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

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Staff Acknowledgments

In addition to the contact listed above, Angie Nichols-Friedman (Assistant Director), TyAnn Lee (Analyst-in-Charge), Ryan Braun, Phoebe Iguchi, and Daniel Speer made key contributions to this report. Other contributors included John Armstrong, Shelby Clark, John Crawford, Lindsey Cross, Jasmina Clyburn, Hans Eggers, Lorraine Ettaro, Marcus Ferguson, Lori Fields, Stephanie Gustafson, Schuyler Janzen, Jessica Karnis, Min-Hei (Michelle) Kim, Riley Knight, Claire Li, Brittany Morey, Scott Purdy, Ashley Rawson, Jillian Schofield, Rachel Steiner-Dillon, Hunter Stephan, Alyssa Weir, Miranda Wickham, Alexandra Wilk, and Robin Wilson.

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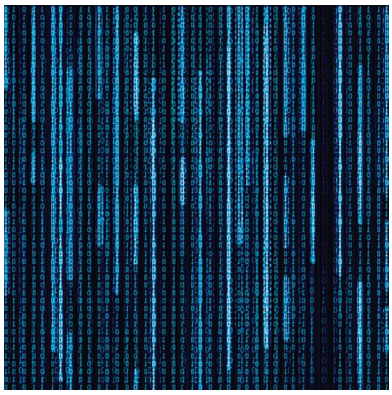

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