



**FAA**

Report No. AV2022016  
January 12, 2022

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## Changes in Requirements and Schedule Delays Contributed to the Termination of the NAS Voice System Contract



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*Requested by U.S. House Committee on Transportation and Infrastructure and its Subcommittee on Aviation*  
**Federal Aviation Administration | AV2022016 | January 12, 2022**

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### What We Looked At

The Federal Aviation Administration's (FAA) modernization of its National Airspace System (NAS) includes a plan to update the Agency's aging voice switches with a voice-over internet protocol (VoIP) system. In August 2012, FAA awarded a contract to the Harris Corporation (Harris) to provide the NAS Voice System (NVS), but in December 2018, FAA and Harris agreed to terminate the contract, and FAA still depends on outdated voice communication. In response to a request from the Ranking Members of the U.S. House Committee on Transportation and Infrastructure and its Subcommittee on Aviation, we initiated this audit to assess (1) FAA's reasons for terminating the NVS contract with Harris and NVS costs and expected benefits and (2) the information on NVS development that the Program Office provided to FAA management and Congress.

### What We Found

Changes in requirements and schedule delays led to the contract's termination, and expenditures achieved few benefits. FAA lacked confidence that Harris's demonstration systems would support VoIP communication in a substantial portion of the NAS. However, the issues with Harris's systems stemmed in part from changes in FAA's requirements. Since the termination, FAA has identified reasons for the contract's failure and lessons learned from the NVS program. FAA spent \$160 million on NVS and will spend \$274 million to sustain its legacy switches. These expenditures have achieved few benefits. FAA's Contracting and Program Offices raised performance concerns but delayed taking action. According to FAA, Harris was trying to stabilize its demonstration system. Because FAA would incur little cost from these efforts, allowing Harris to continue made more sense than ending the contract. Finally, FAA did not inform Congress until after contract termination because program costs and schedule variances did not exceed the thresholds required for such notification.

### Our Recommendations

FAA concurred with our recommendation to improve the Agency's future modernization efforts and provided appropriate actions and completion dates. We consider the recommendation resolved but open pending completion of planned actions.

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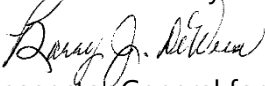


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## Memorandum

Date: January 12, 2022

Subject: INFORMATION: Changes in Requirements and Schedule Delays Contributed to the Termination of the NAS Voice System Contract | Report No. AV2022016

From: Barry J. DeWeese   
Principal Assistant Inspector General for Auditing and Evaluation

To: Federal Aviation Administrator

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The Federal Aviation Administration (FAA) is modernizing its National Airspace System (NAS) through its Next Generation Air Transportation System (NextGen).<sup>1</sup> Included in this modernization effort is a plan to update the Agency's aging legacy voice switches<sup>2</sup> with a voice-over internet protocol (VoIP) system. With this update, FAA hopes to achieve greater flexibility in maintaining communication continuity in the event of a system failure and facilitate the integration of unmanned aircraft systems. To implement its plan, FAA established the NAS Voice System (NVS) program, which it considered a "transformational" NextGen program.<sup>3</sup>

In August 2012, FAA awarded a contract to the Harris Corporation (Harris) to provide the NVS system, but in December 2018, FAA and Harris agreed to terminate the contract. As a result, FAA still depends on outdated voice communication. In August 2020, the Ranking Members of the U.S. House of Representatives Committee on Transportation and Infrastructure and its Subcommittee on Aviation asked us to assess any issues related to NVS and its replacement, the Voice Communications System (VCS) program, which is in early development. In response to this request, we initiated this audit to assess

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<sup>1</sup> NextGen is a collection of new programs and capabilities, including new air traffic management technologies and procedures; airport infrastructure improvements; and environmental, safety, and security-related enhancements.

<sup>2</sup> Voice switches enable voice communications among air traffic controllers at air traffic control facilities, as well as communications between facilities. They also enable voice communications between air traffic controllers and pilots.

<sup>3</sup> In 2008, FAA identified six programs—including NVS—that it referred to as transformational because it believed the programs would provide the operational improvements and capabilities needed to transition to NextGen. The other five programs are the Automatic Dependent Surveillance – Broadcast; System Wide Information Management; Data Communications; Common Support Services – Weather; and Collaborative Air Traffic Management Technologies.

(1) FAA's reasons for terminating the NVS contract with Harris and NVS costs and expected benefits and (2) the information on NVS development that the Program Office provided to FAA management and Congress. We will review FAA's development of VCS in a separate audit.

We conducted this audit in accordance with generally accepted Government auditing standards. Exhibit A details our scope and methodology. Exhibit B lists the entities we visited or contacted.

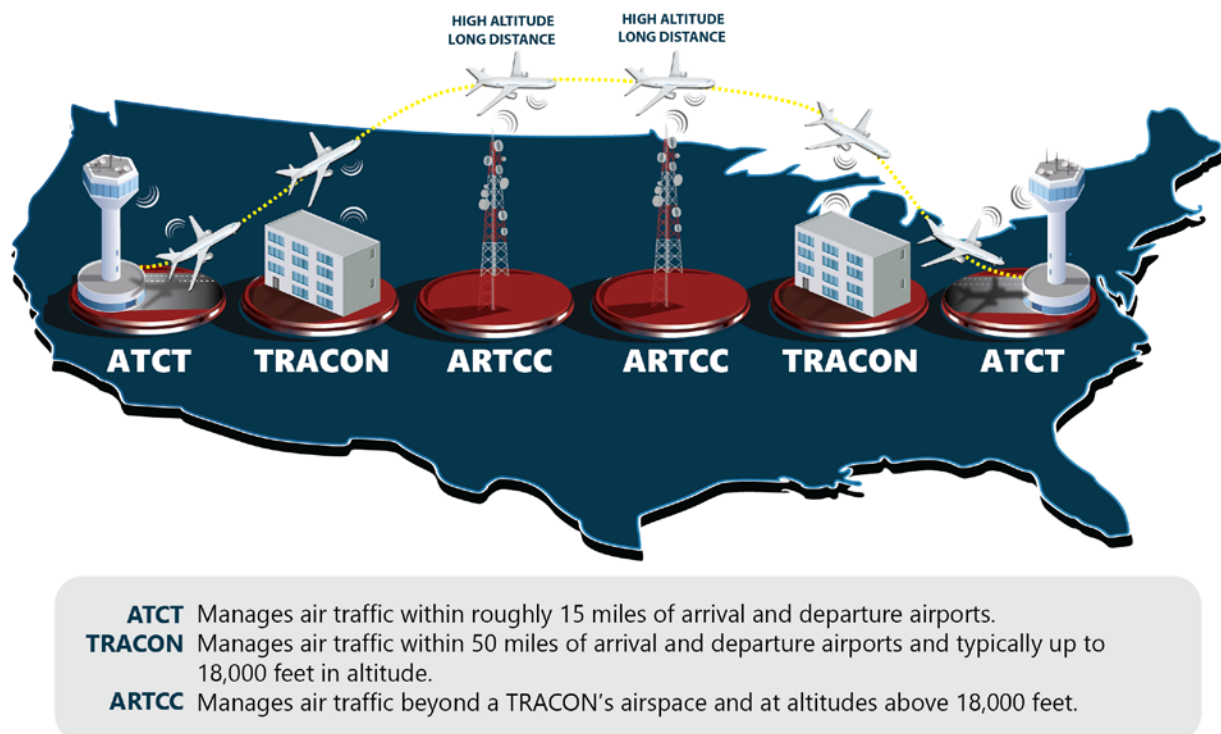
We appreciate the courtesies and cooperation of Federal Aviation Administration representatives during this audit. If you have any questions concerning this report, please call me at (202) 366-1302, or Jay Borwankar, Program Director, at (202) 493-0970.

cc: The Secretary  
DOT Audit Liaison, M-1  
FAA Audit Liaison, AAE-100

## Background

FAA controls air traffic in two domains—terminal and en route. An aircraft departs in the terminal domain. Once airborne and at the edge of the air traffic control tower's (ATCT) visual range (roughly 15 miles out), the aircraft is handed over to terminal radar approach control (TRACON). TRACONs manage aircraft up to roughly 50 miles from the departure airport and roughly 18,000 feet in altitude. At 18,000 feet, the aircraft enters the en route domain and is controlled by a series of air route traffic control centers (ARTCC). ARTCCs generally handle aircraft at high altitudes and cover large geographic areas. Controllers hand off the aircraft between airspace sectors within and between ARTCCs until it gets close to its destination airport. The ARTCC then transitions the aircraft down in altitude until about 50 miles from the destination airport then it hands it over to a controller in the arrival TRACON. That TRACON lines up the aircraft for approach and at roughly 15 miles out, hands it off to the airport ATCT. The tower is then responsible for the aircraft as it lands and taxis to a gate. See the figure for an overview of the components of air traffic control.

Figure. Overview of the Components of Air Traffic Control



Source: OIG

The terminal domain uses six voice communication switches developed by four vendors. The en route domain uses a seventh switch developed by Harris, the NVS contractor. Each switch provides different features to accommodate its unique operations.

In August 2012, FAA awarded Harris the contract to provide the NVS system to replace all seven switches. According to FAA officials, at the time of contract award, Harris had a VoIP system for air traffic control that it was marketing to air traffic control service providers. A VoIP system allows voice communication over the internet.

FAA planned to execute the contract in two segments. The first segment consisted of two phases—the demonstration phase and the qualification phase. The second segment would consist of the deployment phase. FAA funded the demonstration phase at \$15 million for Harris to provide three demonstration systems.<sup>4</sup>

In November 2013, FAA accepted the demonstration systems, and in September 2014, funded the contract's qualification phase at \$232 million to expand the system's capability. In the second segment, FAA would have required Harris to deploy the system's capability to a majority of the NAS at a projected cost of \$770 million.

In March 2020, we reported on FAA's competitive award practices for major program contracts.<sup>5</sup> During that audit, we reviewed the NVS contract and other major contracts, and in the report, presented many of the same contracting issues that we have identified in this review of NVS. We made 10 recommendations to improve FAA's major program contract award practices, including 2 financial recommendations resulting in roughly \$5 billion in funds that could be put to better use.

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## Results in Brief

### **Changes in requirements and schedule delays led to contract termination, and expenditures achieved few benefits.**

After FAA accepted the demonstration systems in 2013 and funded the contract qualification phase in 2014, FAA and Harris agreed to a contract modification in

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<sup>4</sup> The demonstration systems were intended to illustrate how NVS's VoIP capabilities would integrate with other NextGen systems before FAA made a decision to deploy the system to a majority of the NAS.

<sup>5</sup> *FAA's Competitive Award Practices Expose Its Major Program Contracts to Cost and Performance Risks* (OIG Report No. ZA2020020), March 9, 2020.



September 2015. In FAA's view, the modification would clarify existing requirements, but, according to Harris, it added requirements to the contract. Furthermore, during the qualification phase, FAA discovered a number of software defects that proved difficult to resolve. These defects led FAA to express concerns to Harris about whether the contractor could deploy the systems to a majority of the NAS in a timely manner. As a result of these concerns, in April 2018, FAA issued a show cause letter<sup>6</sup> citing a lack of confidence in Harris's ability to meet deadlines. In its June 2018 response, Harris stated that the requirements FAA presented in the September 2015 contract modification required additional customization of the demonstration systems and impacted Harris's ability to meet its obligation in a timely manner. Harris also stated that the high levels of review that FAA subjected its design documentation, test plans, and procedures to caused schedule delays. Ultimately, the parties agreed to an alternative dispute resolution,<sup>7</sup> and in December 2018, finalized an agreement to end the contract. Since the termination, FAA has identified reasons for the contract's failure and program termination and is finalizing its analyses. For example, the Agency noted that it had selected the contractor based on an abbreviated technical assessment of proposals due to time limits for obligating program funds. As of November 2020, FAA had spent \$160 million on NVS, including \$71 million to Harris for the first contract segment. These disbursements paid for two of the three demonstration systems that FAA dismantled because they did not work. Furthermore, according to FAA officials, the Agency's sustainment of its legacy voice switches through fiscal year 2030 will require an additional \$274 million.

**The Contracting and Program Offices raised performance concerns but delayed taking action, and the Agency did not inform Congress until after contract termination.**

In June 2016, FAA's Contracting and Program Offices independently informed FAA leadership of Harris's missed deadlines. The Contracting Office suggested issuing a cure notice.<sup>8</sup> Instead, the Agency issued a warning letter<sup>9</sup> about the difficulties Harris was experiencing satisfying FAA's requirements. In August 2017, after Harris continued to miss deadlines, FAA requested that Harris provide a revised schedule for the qualification phase. Then in September 2017, its

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<sup>6</sup> Issued by a contract officer, a show cause letter states why an agency will terminate a contract for default and permits the contractor to present a defense against contract termination. See AMS T3.10.6.A.5.h.

<sup>7</sup> Alternative dispute resolution is the process by which FAA and its private sector partners or contractors work collaboratively to avoid and, when possible, voluntarily resolve issues that might otherwise require administrative proceedings and/or litigation. The process may include, but is not limited to, settlement negotiations, mediation, and arbitration.

<sup>8</sup> A notice issued by a contract officer when the contract is to be terminated for default before delivery date. The notice provides the contractor a period to remediate underlying issues that could constitute default under the contract. See AMS T3.10.6.A.4.(a).

<sup>9</sup> A document issued to Harris entitled Notification of Contract Performance Concerns.



concerns notwithstanding, FAA exercised an option to extend the contract through September 2019. According to FAA officials, Harris was trying to stabilize its demonstration systems; because FAA would incur little cost from these efforts, allowing Harris to continue made more sense than ending the contract. Harris provided the revised schedule in April 2018, but FAA rejected it because it proposed extending the contract term by 5 years. Instead, the Agency issued a show cause letter but ultimately, the parties agreed to participate in an alternative dispute resolution process. In December 2018, they finalized an agreement to terminate the contract. The Agency did not inform Congress prior to the contract termination because program costs and schedule variances did not exceed the thresholds that would have required such a notification.<sup>10</sup>

We made one recommendation to help FAA apply the lessons learned from the NVS program to future modernization efforts. FAA has concurred with our recommendation and we consider it resolved but open until completion of planned actions.

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## Changes in Requirements and Schedule Delays Led to Contract Termination, and Expenditures Achieved Few Benefits

FAA lacked confidence that Harris's demonstration systems would support VoIP communication to a substantial portion of the NAS in a timely manner. However, the issues with Harris's systems stemmed in part from changes in FAA's requirements. Since the termination, FAA has identified reasons for the contract's failure and lessons learned from the NVS program. Furthermore, FAA spent \$160 million on NVS and will spend another \$274 million to sustain its legacy switches. However, these program expenditures achieve few benefits.

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### While FAA Lacked Confidence That Harris's Systems Could Support VoIP in a Timely Manner, Requirements Changes Contributed to Harris's Issues

During the contract's demonstration phase, Harris was to provide three demonstration systems for FAA to test. In November 2013, FAA tested the

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<sup>10</sup> See AMS Policy, section 1.2.18; *see also* 49 U.S.C. § 40121(c)(3).

demonstration systems and found that they could successfully integrate NVS's VoIP capabilities with other NextGen systems. The Agency accepted the systems and in September 2014, funded the contract's qualification phase.

In September 2015, FAA and Harris finalized a contract modification.<sup>11</sup> According to Harris, the modification added FAA requirements to the contract. According to FAA, the modification clarified FAA's existing requirements.

During the second phase of the contract—the qualification phase—Harris was to expand the demonstration systems to support 800 air traffic controller positions<sup>12</sup> and, according to Harris, implement FAA's new requirements. However, FAA found software defects in the demonstration systems. According to FAA officials, these defects were difficult to resolve because of Harris's lack of documentation on its software development. Furthermore, throughout its work, Harris had missed several deadlines. These issues led FAA officials to question whether the software could support the expansion and whether Harris could expand the systems to the 800 positions in a timely manner. Based on these concerns, in August 2017, FAA requested from Harris an updated schedule for the qualification phase. Despite its concerns, however, and the fact that Harris had not provided an updated schedule, in September 2017, FAA exercised an option to extend it to September 2019. According to FAA officials, Harris was trying to stabilize its demonstration systems; because FAA would incur little cost from these efforts, allowing Harris to continue made sense.

In April 2018, Harris provided an updated schedule that proposed extending the contract's term by 5 years. According to FAA officials, the Agency continued to lack confidence that Harris could deploy the system to a majority of the NAS within this new timeframe. As a result, FAA did not accept the schedule revision. In mid-April 2018, the Agency submitted a show cause letter to Harris stating that because the contractor had already missed important deadlines, FAA lacked confidence that it would meet future deadlines.

In June 2018, Harris submitted its response, stating that the new requirements FAA had presented in the September 2015 contract modification required additional customization to Harris's system. For example, one customization involved Harris's update to its software to incorporate additional security requirements. According to Harris, this customization dramatically impacted its ability to meet its contractual obligations in a timely manner. Furthermore, according to Harris, FAA subjected its design documentation, test plans, and

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<sup>11</sup> FAA and Harris began negotiating the contract modification in July 2014.

<sup>12</sup> Each position represents a workstation that allows an air traffic controller to communicate with aircraft and other controllers in the management of air traffic operations.

procedures to higher levels of review than the contract required, making the process more complicated and creating schedule delays.

The parties agreed to an alternative dispute resolution, and in December 2018, finalized their agreement to terminate the contract. See exhibit D for a timeline of significant NVS events.

### **FAA Has Identified Reasons Why the NVS Contract Failed and Lessons Learned from the Program**

In October 2019, a group of stakeholders from FAA's various lines of business<sup>13</sup> initiated a study of why the NVS contract failed and in July 2020, the group briefed FAA's Joint Resources Council (JRC).<sup>14</sup> The stakeholders found the following:

- FAA underestimated the extent of the modification Harris's technology required to meet FAA's needs and Harris overestimated its ability to modify its technology to meet FAA's needs.
- FAA leadership was hesitant to hold Harris accountable.
- FAA did not adjust the program's timeframes to account for changes in its acquisition strategy.

In March 2020, the NVS Program Office completed its own analysis of lessons learned. It found that FAA's contractor selection process raised concerns. The Agency selected its contractor based on a technical assessment of vendor proposals that was abbreviated due to time limits for obligating funds for the program. This abbreviated assessment limited FAA's ability to evaluate vendor proposals. The stakeholders group also found this abbreviated assessment to be an issue.

According to FAA officials, the Agency is developing a single document that incorporates the stakeholder group's and Program Office's analyses of the contract failure and program termination. However, FAA has not informed us of a timeframe for completing this document.

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<sup>13</sup> These stakeholders included representatives from Contracts, NextGen, Aviation Safety, Program Management, Mission Support Services, Legal, Investment Planning and Analysis, Acquisition Policy, and Test and Evaluation Offices.

<sup>14</sup> The JRC is FAA's senior decision-making body that approves funding for major acquisitions.

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## FAA Spent \$160 Million on NVS and Will Spend \$274 Million To Sustain Its Aging Legacy Voice Switches

As of November 2020, FAA had spent \$160 million on NVS. Of this amount, FAA paid \$71 million to Harris for the contract's demonstration and qualification phases. This \$71 million included payment for two demonstration systems that FAA retained as part of the alternative dispute resolution.<sup>15</sup> However, the systems did not work and FAA could not modify them because it did not own the rights to the software. As a result, the Agency dismantled the systems after contract termination. Furthermore, the Agency spent \$89 million for its contract management and oversight activities.

The termination of NVS has required FAA to extend the sustainment program for its aging legacy voice switches in both the terminal and en route domains through 2030 at a cost of roughly \$274 million. Continued reliance on these switches creates the risk that communication will be disrupted.

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## The Contracting and Program Offices Raised Performance Concerns but Delayed Taking Action, and the Agency Did Not Inform Congress Until After Contract Termination

In June 2016, FAA's Contracting and Program Offices independently informed FAA leadership of Harris's difficulties with Agency requirements and missed deadlines. The Contracting Office suggested issuing a cure notice but the offices agreed instead to issue a warning letter to Harris about its difficulties. In August 2017, after Harris continued to miss deadlines, FAA requested that Harris provide a revised schedule for the qualification phase. Then in September 2017, its concerns notwithstanding, FAA exercised an option to extend the contract through September 2019. According to FAA officials, Harris was trying to stabilize its demonstration systems; because FAA would incur little cost from these efforts, allowing Harris to continue made more sense than ending the contract.

However, FAA did not receive a revised schedule and made another request in March 2018. Harris provided its new schedule in April 2018, but FAA rejected it

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<sup>15</sup> Harris kept the third demonstration system.

because it proposed extending the contract term by 5 years. The Agency instead issued its show cause letter. In December 2018, based on Harris's rebuttal to the show cause letter and the alternative dispute resolution proceedings, FAA and Harris agreed to terminate the contract.

We determined that FAA was not required to inform Congress of the contract termination because program costs and schedule variances did not exceed the thresholds that would have required such a notification. A cost or schedule variance of over 50 percent would require a congressional notification. However, the variance in contractual cost from actual cost was roughly 2.0 percent while the variance in the contract schedule and actual schedule was roughly 13.0 percent. After it had ended the contract in December 2018, the Agency notified Congress it had done so. In April 2019, the FAA Administrator approved the termination of the NVS program.

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## Conclusion

The termination of the NVS contract ended a program troubled by changes in requirements and schedule delays. NVS's termination has also delayed by at least 10 years the deployment of modernized voice capabilities. In the short term, FAA faces risk due to air traffic controllers' continuing reliance on its aging legacy voice switches. FAA has identified issues that led to the contract termination but a failure to fully address lessons learned will make it difficult for the Agency to avoid similar problems in the VCS program and other future modernization programs.

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## Recommendations

To help improve FAA's implementation of future modernization efforts, we recommend that the Federal Aviation Administrator finalize the report on the NVS contract failure and the program termination, and develop action items to address the failures and a plan for implementing them.

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## Agency Comments and OIG Response

We provided FAA with our draft report on October 21, 2021, and received its formal response, dated November 18, 2021. FAA's response is included in its entirety as an appendix to this report. FAA concurred with our recommendation and proposed appropriate actions and completion dates.

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## Actions Required

We consider our recommendation resolved but open pending completion of the planned actions.

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## Exhibit A. Scope and Methodology

We conducted this performance audit between October 2020 and October 2021, in accordance with generally accepted Government auditing standards as prescribed by the Comptroller General of the United States. 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. Our audit objectives were to assess (1) NVS program costs and expected benefits, and FAA's reasons for contract termination, and (2) the information on NVS development that the program provided to FAA management and Congress.

To determine NVS program costs, we reviewed FAA's payments to Harris and its contract support costs. We examined FAA's NVS budget estimates for fiscal years 2009 through 2021, and Capital Investment Plans for fiscal years 2011 through 2021. We reviewed documents outlining expected NVS program benefits, benefits actually achieved, and items delivered to FAA pursuant to the contract. Finally, we reviewed documents outlining FAA's rationale for its decision to terminate the NVS contract and the results of the final alternative dispute resolution.

We reviewed Harris's response to FAA's show cause letter and interviewed representatives from Harris familiar with the NVS program to obtain their thoughts on the reasons the contract was terminated. We also reviewed the analyses by the NVS Program Office and the Acquisitions Executive Board of the causes for the program's termination.

To understand performance issues and the chronology of events, we examined NVS program's prepared reviews, timelines, and briefings to the JRC. We also reviewed the contracting officer's correspondence regarding the program and the contract, including the modifications to FAA's requirements. We interviewed NVS program officials to learn their perspectives on issues and circumstances leading to the termination. We conducted interviews with representatives of the Professional Airway Safety Specialists and the National Air Traffic Controllers Association to discuss NVS's expected benefits and capabilities and to obtain their perspectives as system users and maintenance specialists.

We interviewed NVS stakeholders, including FAA's Air Traffic, Acquisitions, and Enterprise Services officials regarding the information communicated to them and Congress about the NVS program during Harris's contract performance and the contract termination. We reviewed 49 U.S.C. § 40121 and FAA's Acquisition Management Policy requirements on the NVS Program Office's reporting to JRC



and the FAA Administrator's requirement to notify Congress of possible cost overruns or schedule delays.

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## Exhibit B. Organizations Visited or Contacted

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### FAA Headquarters Offices

Air Traffic Organization

Office of Vice President, Program Management Organization

Office of Director of Enterprise Services

Voice Switch and Recorder Program Office/Communications, Information and Network Programs

Enterprise Services, Communications, Information and Network Programs

Technical Operations

Management Services/Strategic Planning

Office of Finance and Management

Office of Deputy Assistant Administrator for Acquisition and Business Services and Chief Acquisition Executive

Office of Financial Services, Budget and Programs/Capital Program Formulation Branch

Office of the Chief Counsel/Acquisition and Fiscal Law Division

Office of Government and Industry Affairs

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### FAA Field Offices

Washington Air Route Traffic Control Center, Leesburg, VA

Washington National Airport, Arlington, VA

William J. Hughes Technical Center, Atlantic City, NJ

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## Other Organizations

Harris Corporation, Melbourne, FL

National Air Traffic Controllers Association, Washington, DC

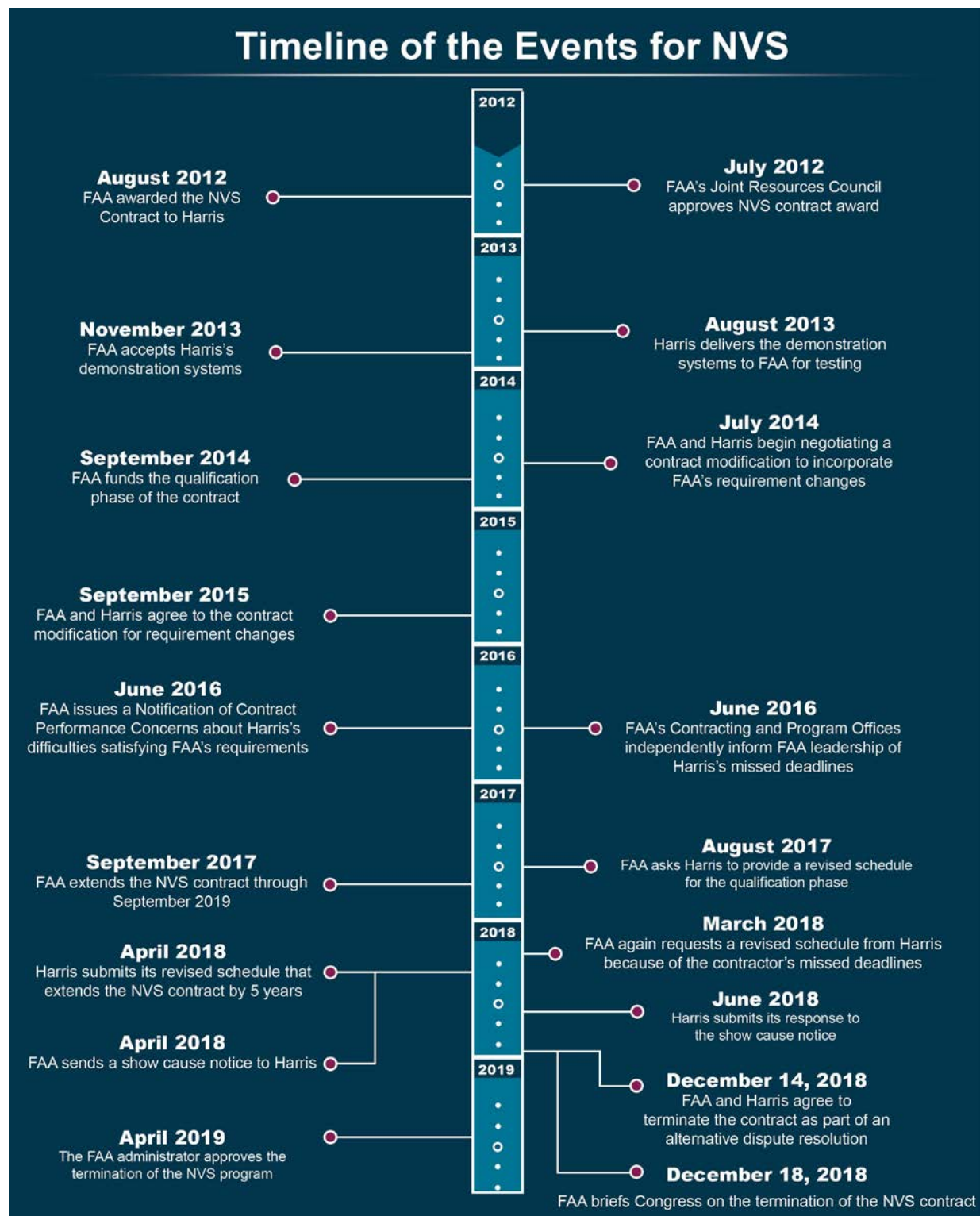
Professional Aviation Safety Specialists, Salt Lake City, UT

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## Exhibit C. List of Acronyms

ARTCC	air route traffic control center
ATCT	air traffic control tower
DOT	Department of Transportation
FAA	Federal Aviation Administration
JRC	Joint Resources Council
NAS	National Airspace System
NextGen	Next Generation Air Transportation System
NVS	NAS voice system
OIG	Office of Inspector General
TRACON	terminal radar approach control
VoIP	voice-over internet protocol

## Exhibit D. Timeline of Significant NVS Events



Source: OIG

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## Exhibit E. Major Contributors to This Report

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WRITER-EDITOR

ASSOCIATE COUNSEL

PROJECT CONSULTANT

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SPECIALIST

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## Appendix. Agency Comments



# Federal Aviation Administration


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## Memorandum

Date: November 18, 2021

To: Matthew E. Hampton, Assistant Inspector General for Aviation Audits

From: H. Clayton Foushee, Director, Office of Audit and Evaluation, AAE-1 

Subject: Federal Aviation Administration's (FAA) Response to Office of Inspector General (OIG) Draft Report: Requirements Instability, Software Defects and Delays Contributed to NVS's Termination

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The FAA recognizes the importance of documenting lessons learned from National Airspace System Voice System (NVS) and actively engaged in this activity shortly after contract termination. Those initial lessons learned were shared with the OIG and formed the basis for the only OIG recommendation in the draft report.

Some language in the draft report suggests that the FAA has not taken sufficient steps to correct the issues that led to cancellation of the NVS program. The FAA offers the three following clarifications to improve the accuracy of the report:

- The OIG report focuses on two major themes, namely that the FAA accepted the vendor's demonstration system, which was their commercial off-the-shelf (COTS) product, and that the FAA subsequently changed requirements (i.e., added scope) through a contract modification executed in 2015, leading to delays on the program. The FAA established technical requirements at contract award that the vendor stated its COTS product (demonstration system) could already meet. Following contract award, the vendor disclosed that its COTS product was only able to meet 50 percent of the FAA's requirements. Regardless, the vendor was able to complete the first step in the NVS program, a NextGen Demonstration event, which validated that the technology (Voice over Internet Protocol) used by the vendor's COTS product was able to support a predefined, high-level set of NextGen communications objectives. The predefined high-level demonstration focused upon a limited subset of the full functionality defined in the contract at award. The FAA accepted the resulting NextGen Demonstration Report, not the vendor's COTS product. In fact, the FAA never accepted the vendor's COTS product.
- Although the contract modification in 2015 changed requirements, that action did not result in additional scope. The FAA worked with the vendor to change the



requirements at the vendor's request. Further, the vendor was struggling with development prior to 2015 when the modification was signed, and continued to miss schedule milestones after the modification, eventually leading to contract termination.

- The FAA could not direct software development processes used by the vendor because the vendor was paying for development of its COTS product, not the FAA. Many of the schedule delays were a direct result of vendor decisions about its internal COTS software development processes. The development processes resulted in an unstable COTS product, and made it difficult for the vendor to stabilize the product once the instability was clear during pretesting for the FAA. In 2018, the vendor disclosed an additional 5-year schedule delay, and in light of significant prior delays, the FAA decided to seek termination of the contract.

With the above clarifications, the FAA concurs with the report's one recommendation. The FAA intends to have the NVS report finalized and a plan for implementing corrections for the issues identified in the recommendation by March 31, 2022.

We appreciate this opportunity to offer additional perspective on the OIG draft report. Please contact H. Clayton Foushee at [Clay.Foushee@faa.gov](mailto:Clay.Foushee@faa.gov) if you have any questions or require additional information about these comments.

U.S. Department of Transportation  
Office of Inspector General

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# Fraud & Safety Hotline

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<https://www.oig.dot.gov/hotline>  
[hotline@oig.dot.gov](mailto:hotline@oig.dot.gov)  
(800) 424-9071

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