NASA OFFICE OF INSPECTOR GENERAL

OFFICE OF AUDITS
SUITE 8U71, 300 E ST SW
WASHINGTON, DC 20546-0001

June 24, 2026

TO: Lori Glaze
Acting Associate Administrator for Exploration Systems Development
Mission Directorate

SUBJECT: Interim Memorandum, *NASA's Management of Programs and Projects after Mission Termination—Canceled or Repurposed Artemis Campaign Systems* (Report No. ML-26-002; Assignment No. A-26-06-00-SARD)

The Office of Inspector General (OIG) initiated an audit in March 2026 examining NASA's management of developed assets for programs and projects terminated prior to launch or operations. Within the scope of this audit are four Artemis systems—with a combined current contract value of $5.9 billion—that the Agency recently announced plans to cancel or repurpose: the Space Launch System (SLS) Exploration Upper Stage (EUS), SLS Universal Stage Adapter (USA), Mobile Launcher 2 (ML-2), and Gateway's Habitation and Logistics Outpost (HALO). Collectively, these four systems have experienced billions of dollars in cost increases and years of schedule delays.

In February 2026, NASA announced that it was reformulating the Artemis campaign in accordance with the President's National Space Policy to return American astronauts to the Moon and establish an enduring lunar presence.[1] To this end, the Agency intends to increase its cadence of missions by standardizing the SLS two-stage, heavy-lift rocket and adding a new mission to low Earth orbit before sending astronauts to the Moon's surface in 2028. To achieve its goal of one crewed lunar landing mission per year, NASA is no longer planning to upgrade the SLS to a more powerful configuration utilizing the EUS, USA, and ML-2. Further, rather than utilizing the Gateway as a staging location for lunar surface missions, NASA plans to shift its efforts to building a permanent Moon base.

[1] Executive Order 14369, *Ensuring American Space Superiority* (December 18, 2025).

Given the substantial investment, evolving changes to the Artemis campaign, and urgency of the current fiscal year budget cycle, we are issuing this interim memorandum to document the cost, schedule, and development posture of these systems as well as the projected cost and schedule to complete them if NASA had not reformulated the Artemis campaign. These projections are not intended to serve as comprehensive cost and schedule estimates. Rather, they illustrate potential outcomes based on available historical cost and schedule data provided by NASA. Details about our methodology and associated limitations are outlined in Enclosure I. We believe the timely dissemination of this information will be valuable for the Agency, Administration, Congress, and the public as NASA contemplates the future of Artemis.

Exploration Upper Stage

The EUS was designed as an upgraded upper stage for the SLS heavy-lift rocket to increase its capacity to send heavier and larger payloads to deep space. The SLS consists of two stages—a Core Stage that provides initial launch thrust and an upper stage that propels spacecraft and cargo beyond Earth orbit. The EUS would have increased SLS capability by 40 percent to send the Orion Multi-Purpose Crew Vehicle (Orion) and cargo payloads to the Moon and other destinations. Implementation of the EUS also would have required upgrades to supporting launch and operational infrastructure.

NASA Program: Space Launch System | **Prime Contractor:** The Boeing Company

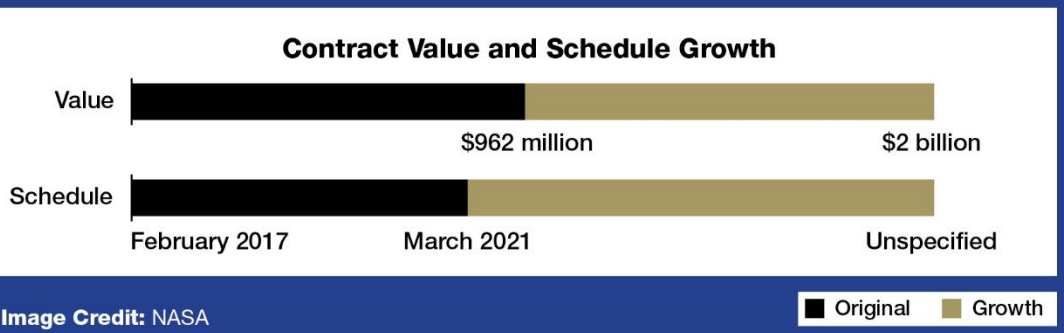

Image Credit: NASA

Background

In 2015, Congress directed NASA to design a more powerful upper stage for use in upgraded variants of its SLS heavy-lift rocket. NASA selected The Boeing Company to design and manufacture the EUS, and in February 2017, the Agency incorporated EUS work into its existing SLS Core Stages contract with Boeing.[2] The scope of work included design and delivery of one EUS, one interstage to connect the EUS to the SLS Core Stage, and associated test articles. This added $962 million to the contract and set a delivery date for the first EUS in March 2021. In March 2026, NASA issued a stop work order to Boeing suspending further work on the EUS. By this time, the EUS portion of the contract value had more than doubled to almost $2 billion while the delivery date for the upper stage was unspecified.[3]

Performance

As we reported in August 2024, Boeing and NASA faced cost and schedule challenges related to the EUS.[4] In 2018, NASA deprioritized work on the EUS to focus on the first Core Stage delivery. By December 2019, NASA had spent approximately $516 million (54 percent) of the $962 million originally allocated on the contract for EUS development. Additional factors led to further cost and schedule increases, including changing Artemis mission profiles, maintaining the workforce longer than planned, manufacturing issues, and supply chain challenges.

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[2] The SLS Core Stages contract uses a hybrid cost-plus-award-fee/cost-plus-incentive-fee structure. A cost-plus-award-fee contract is a cost-reimbursement contract that provides for a fee consisting of (a) a base amount fixed at inception of the contract and (b) an award amount based upon a judgmental evaluation by the government of the contract performance. A cost-plus-incentive-fee contract is a cost-reimbursement contract that provides for an initially negotiated fee to be adjusted later by a formula based on the relationship of total allowable costs to total target costs.

[3] The SLS Core Stages contract is composed of multiple contract line item numbers (CLIN) used to identify the tasks to be performed and the costs estimated to complete those tasks. In February 2020, NASA added CLIN 10 to track EUS costs. We only considered CLIN 10 and associated award fees when determining the contract value for EUS, even though additional EUS work may have been comingled within other CLINs. As of May 2026, no date was listed in the contract's delivery schedule corresponding with NASA's final acceptance of EUS flight hardware.

[4] NASA OIG, *NASA's Management of Space Launch System Block 1B Development* (IG-24-015, August 8, 2024).

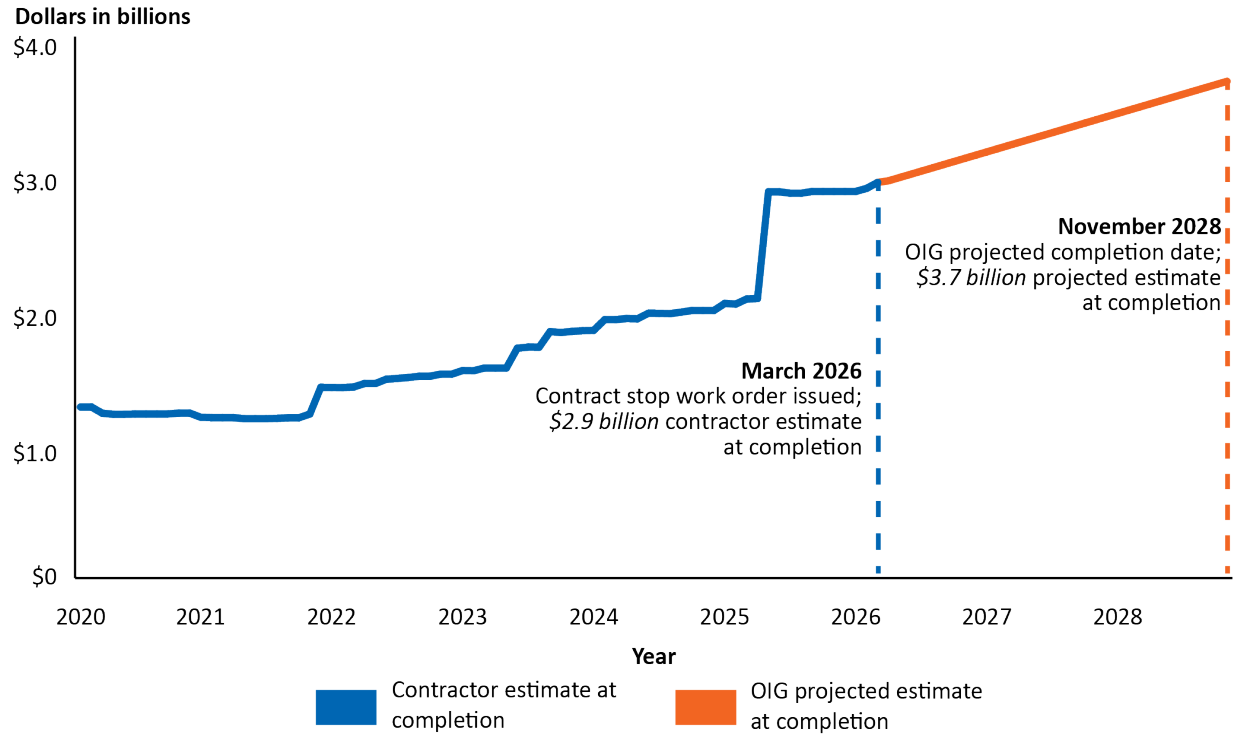
To this end, NASA's evaluations of Boeing's performance in 2024 and 2025 reflected continued challenges, with the Agency ultimately awarding Boeing an "unsatisfactory" rating for its evaluation period ending in May 2025. NASA noted significant weaknesses related to EUS production efficiency, including unrealistic production schedules and the lack of a clear plan for improvement. This included a significant weakness related to the Agency's limited confidence in Boeing's internal systems for task scheduling and project management.

In its March 2026 financial management report, Boeing estimated work on the first EUS would cost $2.9 billion by the time it was complete, including any fees earned. At that time, NASA's deterministic, or best case, schedule completion date was August 2028.

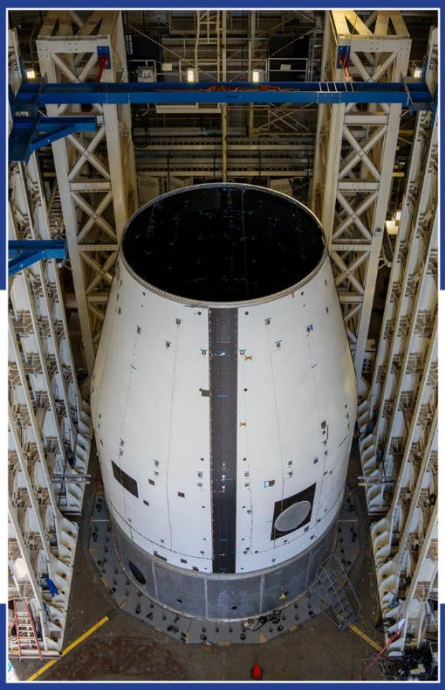
Projected Cost and Schedule to Complete

If Boeing was to continue work on the EUS through delivery of the first flight unit and associated test articles, in our judgment, costs would continue to grow and the schedule would continue to slip. Based on Boeing's historical cost and schedule data, we project contract costs would have grown to $3.7 billion—nearly $750 million higher than Boeing's latest estimate at completion in March 2026. We also project delivery of the first flight-ready EUS would have been delayed until November 2028, approximately 7.5 years later than originally planned. Figure 1 depicts Boeing's historical estimate at completion and our projected cost and schedule for completing the EUS.

Figure 1: NASA OIG Projection of EUS Cost and Schedule at Completion



Source: NASA OIG presentation of data from Boeing monthly financial management reports and OIG projections. See Enclosure I for additional information on our projection methodology.



Universal Stage Adapter

The USA was designed to connect the Orion spacecraft to the EUS used on larger SLS rocket variants. With its cone-shaped structure, the adapter would house co-manifested payloads and provide environmental control prior to payload deployment.

NASA Program: Space Launch System | **Prime Contractor:** Dynetics, Inc.

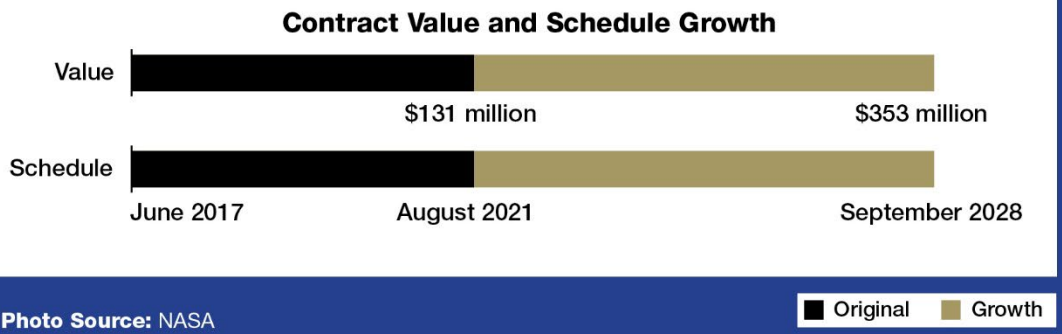


Photo Source: NASA

Background

In June 2017, NASA contracted with Dynetics, Inc. to design, build, and test the USA. The cost-plus-award-fee contract required delivery and integration of the first USA with the SLS by August 2021. While the first USA was valued at $131 million, the contract also included options to allow NASA to order up to six additional adapters for future missions.[5] In May 2022, NASA added $9 million to the contract for the design, build, and test of the first Payload Separation System—a mechanism within each USA used to physically release co-manifested payloads once the SLS reaches orbit.[6] In February 2026, NASA announced that it would no longer use the USA and issued a stop work order. By this time, the contract value for the first USA and Payload Separation System had grown by nearly 170 percent to almost $353 million, and the delivery and integration schedule for the adapter had been delayed by 7 years to September 2028.[7]

Performance

The USA contract's cost and schedule estimates grew beyond original estimates due to both NASA-directed modifications and Dynetics' performance issues. By 2025, the total contract value had increased by $203 million due to NASA-directed contract modifications. These changes included effects on the USA due to SLS Program revisions, the incorporation of the Payload Separation System, and other design requirement changes. For example, in 2019, NASA increased the contract value by $76 million to extend the contract by 2 years and fund mass-reduction initiatives, a development and qualification test plan, and five additional Payload Separation System segments for service life extension testing.

[5] The $131 million contract value for the first USA includes associated indefinite-delivery, indefinite-quantity task orders and available award-fee pool. The total potential contract value including all options at time of award was $222 million with a final delivery and integration date for all seven adapters of August 2028.

[6] An additional $10 million was added to the potential contract value to allow for six additional Payload Separation Systems and training.

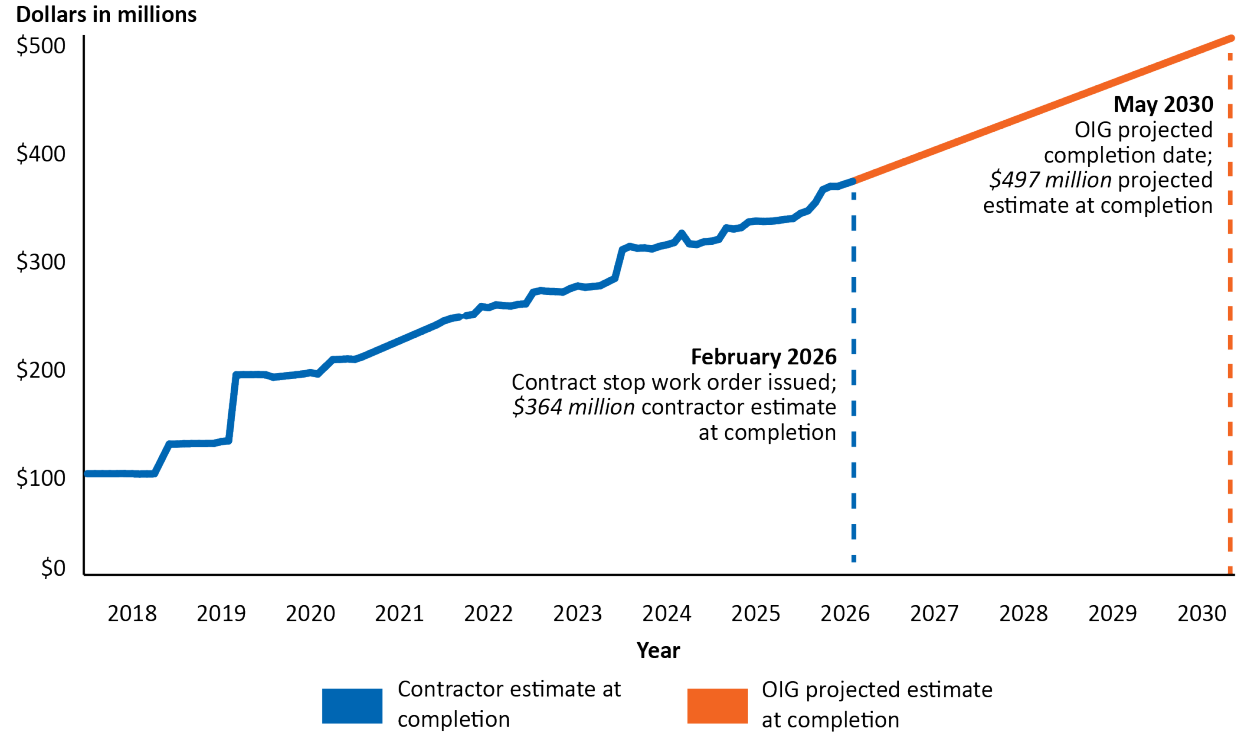
[7] As of May 2026, the total potential contract value, including all options for the six additional USAs and Payload Separation Systems, was $486 million.

Further, according to NASA, in 2024, Dynetics began experiencing significant performance issues. These included ineffective communication with the Agency, an unreliable estimate at completion and inaccurate project schedule, ineffective management of a primary subcontractor responsible for critical hardware, and the absence of an integrated risk management approach. As a result, NASA modified the contract multiple times to address $62 million in cost overruns by Dynetics. Although NASA rated Dynetics' performance as "very good" in 2024, two evaluations in 2025 affirmed the Agency's increasing dissatisfaction with the contractor's performance when they lowered Dynetics' rating to "good" and then "unsatisfactory."

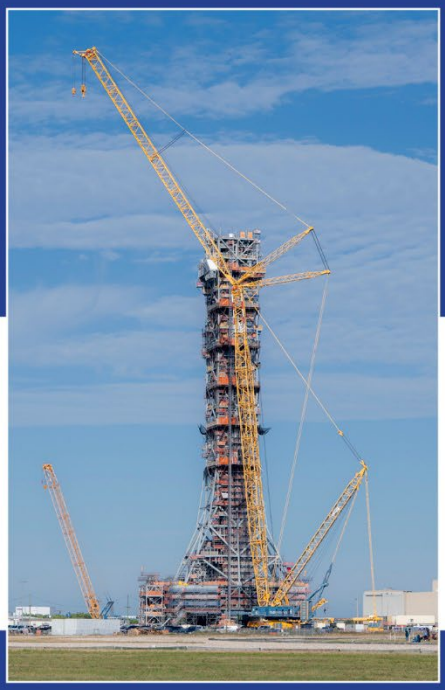
Projected Cost and Schedule to Complete

In our judgment, if the USA contract was to continue to completion for the first USA and Payload Separation System, the overall contract costs would have continued to grow and the delivery schedule would have been even further delayed. Based on trends in Dynetics' monthly financial management reports over the past 9 years, we project costs for the first USA and Payload Separation System would have climbed to $497 million (nearly 4 times more than planned), and approximately $133 million higher than Dynetics' latest estimate at completion. Similarly, we project the adapter would not have been delivered to NASA until May 2030, approximately 9 years behind the original schedule. Further, according to SLS Program officials and the contract, after delivery of the first adapter, NASA included an additional 3 years for post-delivery vehicle integration, testing, launch operations support, and post-launch analysis. Figure 2 depicts Dynetics' historical estimate at completion and our projected cost and schedule for completing the USA.

Figure 2: NASA OIG Projection of USA Cost and Schedule at Completion



Source: NASA OIG presentation of data from Dynetics' monthly financial management reports and OIG projections. See Enclosure I for additional information on our projection methodology.



Mobile Launcher 2

The mobile launcher is the ground structure NASA uses to assemble, process, transport, and launch the integrated SLS heavy-lift rocket and Orion system. The ML-2 was designed to support larger variants of the SLS.

NASA Program: Exploration Ground Systems | **Prime Contractor:** Bechtel National, Inc.

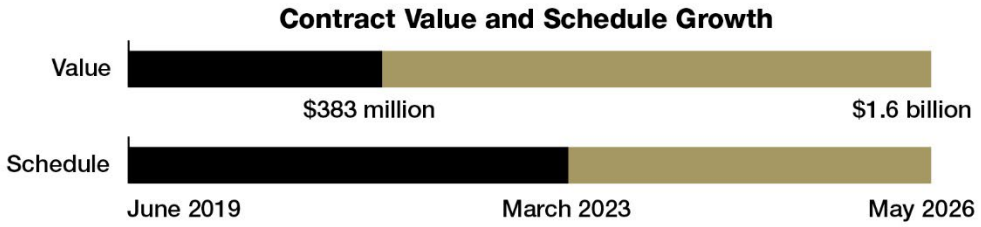


Photo Source: Charles Boyer/TalkOfTitusville.com

Background

In June 2019, NASA contracted with Bechtel National, Inc. to design, build, and test the ML-2. Originally valued at $383 million, the cost-plus-award-fee contract required delivery of the launcher to NASA by March 2023.[8] NASA increased the contract value multiple times over the next several years, with the largest one in August 2022 for more than $400 million to align with Bechtel's latest estimate at completion. In February 2026, NASA issued a stop work order to Bechtel to suspend all work on the ML-2. By this time, the ML-2 contract value had grown by 314 percent to almost $1.6 billion, and its delivery schedule had been delayed by over 3 years to May 2026.

Performance

As we reported in June 2022 and again in August 2024, Bechtel's performance was a significant driver of cost and schedule growth.[9] Bechtel underestimated the scope and complexity of the ML-2, and due to the structure of the contract, NASA had to assume the additional costs required for the launcher's development. In addition, Bechtel's reluctance to utilize NASA expertise, failure to track risks, challenges with managing the launcher's weight, and lack of a certified earned value management system impacted the contractor's cost, schedule, and performance.

NASA's management practices also contributed to the contract's cost increases and schedule delays. Due to schedule pressures, NASA decided to award the ML-2 contract while the EUS—the main driver requiring a second mobile launcher—was early in its design cycle and lacked finalized requirements, impacting the contract approach and independent government cost estimate. Further, NASA lacked an

[8] The $383 million contract value for the ML-2 includes $23 million in available award fees.

[9] NASA OIG, *NASA's Management of the Mobile Launcher 2 Contract* (IG-22-012, June 9, 2022) and *NASA's Management of the Mobile Launcher 2 Project* (IG-24-016, August 27, 2024).

official ML-2 project cost and schedule baseline for the first 5 years of the ML-2 contract, which limited visibility into the information needed for Congress and others to better hold the Agency accountable.[10]

The Agency also had limited leverage to incentivize Bechtel to improve and sustain its performance—relying primarily on the contract's award fee process. Our prior ML-2 audits questioned nearly $6 million in award fees NASA provided to Bechtel despite the contractor's performance weaknesses.[11] While Bechtel's performance somewhat improved after starting construction on the ML-2, for the period ending in September 2025, NASA rated the contractor's performance as only "satisfactory" and cited numerous management deficiencies involving subcontractor oversight, supply scheduling, and workflow efficiency.

Projected Cost and Schedule to Complete

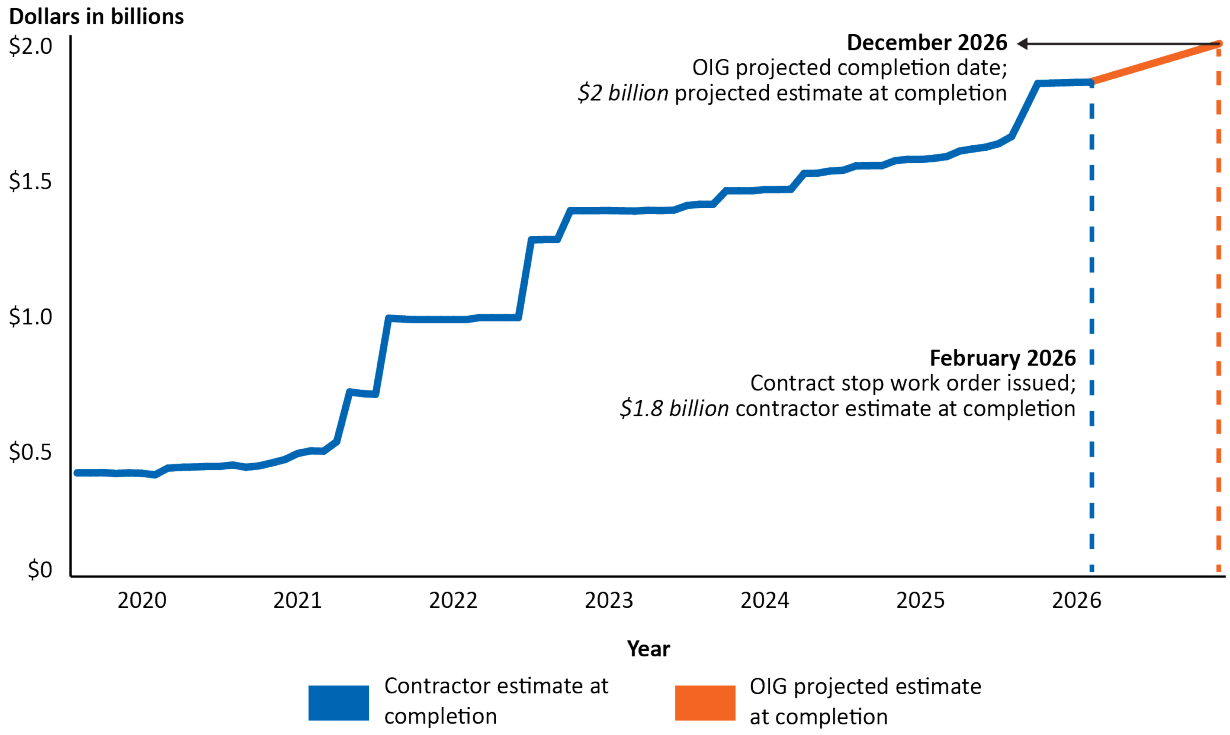
If Bechtel was to continue the ML-2 to completion, in our judgment, the overall contract costs would have been significantly higher and the delivery schedule would have been further delayed. Based on trends in Bechtel's monthly financial management reports over the past 3 years since construction began, we project the ML-2 contract's cost could have climbed to $2 billion (5 times more than planned), and over $140 million higher than Bechtel's latest estimate at completion in February 2026. Similarly, the launcher would not be ready for delivery to NASA until December 2026, a delay of more than 3.5 years.[12] Notably, NASA would still need to perform verification and validation testing after delivery to ensure the launcher operated as expected prior to using it for any Artemis launches. This process could take 1 to 2 years, meaning the ML-2 would likely not have been operational until at least 2028. Figure 3 depicts Bechtel's historical estimate at completion and our projected cost and schedule for completing the ML-2.

[10] In June 2024, NASA established an Agency Baseline Commitment—the cost and schedule baseline committed to Congress and the Office of Management and Budget against which a project is measured—and estimated ML-2 project costs at $1.8 billion with delivery of the launcher in September 2027.

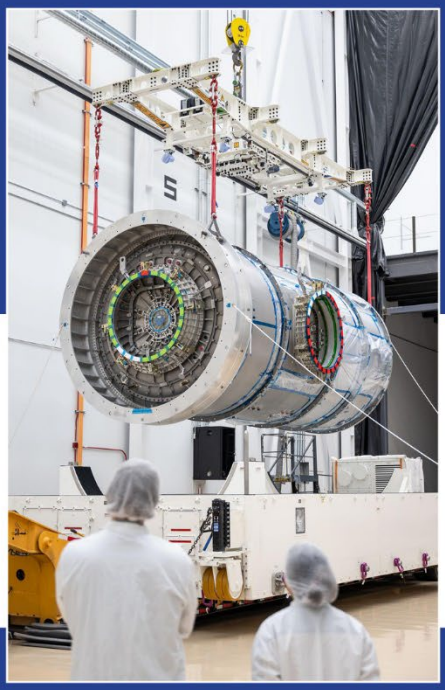
[11] IG-22-012 and IG-24-016.

[12] In our 2024 report (IG-24-016), we projected that if cost and schedule growth trends continued, contract costs could reach as high as $2.5 billion and the launcher would be delivered in August 2027. Our updated projection reflects Bechtel's relative performance improvements since starting the construction phase.

Figure 3: NASA OIG Projection of ML-2 Cost and Schedule at Completion



Source: NASA OIG presentation of data from Bechtel monthly financial management reports and OIG projections. See Enclosure I for additional information on our projection methodology.



Habitation and Logistics Outpost

HALO was a key part of the initial capability of NASA's Gateway, a lunar orbiting space station that would have provided a staging location for lunar and deep space operations. The module was designed to provide astronauts with a living and working space as well as additional life support systems for a docked Orion.

NASA Program: Gateway | **Prime Contractor:** Northrop Grumman Innovation Systems

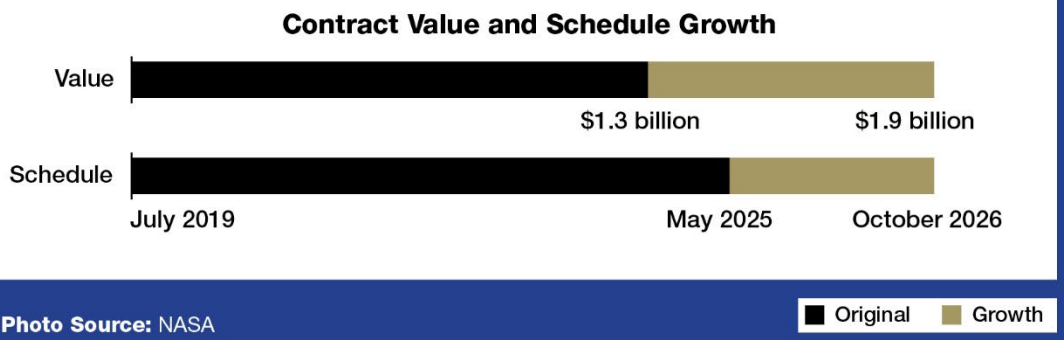


Photo Source: NASA

Background

In July 2019, NASA sole-sourced the acquisition of Gateway's HALO to Northrop Grumman Innovation Systems, later awarding the company $187 million to complete the preliminary design of the module.[13] Two years later, NASA converted HALO to a firm-fixed-price contract with a combined contract value of $1.3 billion through delivery of the module in May 2025 and subsequent launch preparations.[14] Then in September 2024, citing difficulties administering a development project with a firm-fixed-price contract type, NASA converted HALO to a cost-plus-award-fee contract, increasing the combined value of the contract to $1.8 billion and delaying delivery of the module to October 2026. However, in April 2026, the Agency issued a stop work order to Northrop Grumman for its work on the HALO contract. By then, the value of the contract had risen to $1.9 billion and Northrop Grumman was working to address corrosion throughout HALO's primary structure, which would significantly impact the project's schedule.

Performance

In November 2020, we reported that NASA's acquisition of the HALO module before fully defining the Gateway's requirements added significant costs to the development effort and increased the risk of future schedule delays and additional cost increases.[15] One major requirement change was NASA's decision in February 2020 to launch HALO with Gateway's Power and Propulsion Element on one rocket,

[13] A sole-source acquisition is a contract for the purchase of supplies or services that is entered into or proposed to be entered into by an agency after soliciting and negotiating with only one source. NASA selected Northrop Grumman because it was deemed to be the only contractor that could build the module in the time frame required due to its existing production capability and the maturity of critical subsystems.

[14] A firm-fixed-price contract provides a price that is not subject to any adjustment based on the contractor's cost experience in performing the contract, placing maximum risk and full responsibility on the contractor for all costs and resulting profit or loss. The combined value includes $337 million in costs associated with HALO work prior to the conversion to a firm-fixed-price structure.

[15] NASA OIG, *NASA's Management of the Gateway Program for Artemis Missions* (IG-21-004, November 10, 2020).

raising concerns that the two elements together would be too heavy to launch on any commercially available rocket.[16]

Furthermore, driven by the necessity to meet Artemis launch schedules, the Gateway Program worked toward unrealistic schedules throughout the life cycle of HALO.[17] For example, NASA's firm-fixed-price contract with Northrop Grumman aimed for a November 2024 launch readiness date despite multiple schedule analyses showing a less than 1 percent likelihood of success. Two years later, the Gateway Program's independent Standing Review Board found a 0 percent likelihood of meeting the launch readiness date, which had since slipped to October 2025.[18] The Board noted that the Gateway Program's "lack of schedule realism may be driving suboptimal engineering decisions during development."

Compounding these problems, Northrop Grumman and its network of subcontractors faced numerous performance issues during HALO's development. For example, in 2025, the Northrop Grumman subcontractor responsible for manufacturing HALO's primary structure discovered widespread corrosion throughout the module.[19] As a result, Northrop Grumman's estimated delivery date slipped 6 months to July 2028 and the corrosion mitigation became an emerging program risk.

To NASA's credit, the Agency was accurately critical of Northrop Grumman's management of its HALO subcontractors. In the first HALO award fee evaluation report, in May 2025, NASA criticized the contractor's "reactive" schedule approach and ineffective subcontractor management. NASA evaluators added that the Agency "lacks confidence" in Northrop Grumman's schedule data following consistent schedule slips across nearly all major hardware items. As of April 2026, NASA was still evaluating whether the HALO module could be repurposed for lunar surface applications.

Projected Cost and Schedule to Complete

If Northrop Grumman was to continue HALO to completion, in our judgment, the overall contract costs would have continued to rise and the delivery schedule would have been further delayed. Based on trends in Northrop Grumman's monthly schedule reporting data over the past 1.5 years since the contract was converted to cost-plus, we project the HALO would not have been delivered to NASA until July 2031, a 6-year delay. Moreover, given the additional time to integrate the HALO module with the Power and Propulsion Element pre-launch, as well as the approximately 10 months needed to reach its designated lunar orbit, we estimate that Gateway would not have been operational until at least 2032. Due to the projected end date far into the future and limited availability of contractor monthly financial management reports, we were unable to perform a complete cost projection for HALO.

[16] In February 2021, NASA selected SpaceX to launch the co-manifested Gateway elements on a Falcon Heavy rocket from Kennedy Space Center.

[17] NASA originally planned for the initial Gateway elements to be available in 2024 to potentially dock with a spacecraft as part of the first Artemis lunar landing mission.

[18] A Standing Review Board is composed of independent experts from within and outside of NASA who assess a program's or project's programmatic and technical approach, risk posture, and progress against the cost and schedule baseline.

[19] As of May 2026, NASA was still finalizing a root cause analysis report.

Conclusion

NASA's reformulation of the Artemis campaign to meet the President's National Space Policy and increase its cadence of missions by standardizing the SLS heavy-lift rocket resulted in the termination or repurposing of several Artemis-related systems, including the EUS, USA, ML-2, and HALO. Over the course of their life cycles, the combined contract values for these efforts ballooned from nearly $2.8 billion to $5.9 billion and NASA extended their contracted delivery dates by up to 7 years. However, our projections indicate that if NASA allowed work to continue to completion, the systems would have cost more and taken longer than what was on contract. While NASA is currently evaluating potential alternative uses for the hardware investments, decisions regarding whether, and to what extent, the hardware can be repurposed are not finalized.

Though we are not making any recommendations, the information collected and presented in this memorandum will be included in our audit of NASA's terminated missions where we will assess the Agency's management of developed assets and the impacts of their cancellation on associated workforce, contractors, and international partners. We provided the Agency an opportunity to comment on a draft of this interim memorandum. Management's response is reproduced in Enclosure II, and technical comments provided by management have been incorporated as appropriate.

If you have any questions about this memorandum, please contact me or Ray Tolomeo, Science and Aeronautics Research Audits Director, at 202-358-7227 or raymond.tolomeo@nasa.gov.

Brian Mullins
Deputy Assistant Inspector General for Audits

cc: Joel Montalbano
Acting Associate Administrator for Space Operations Mission Directorate

Greg Stover
Acting Associate Administrator for Space Technology Mission Directorate

Enclosure I: Scope and Methodology

We performed this review from March 2026 through June 2026 as part of a broader audit examining NASA's management of developed assets for programs and projects terminated prior to launch or operations. We have not yet completed the audit.

In this interim memorandum, we focused on four Artemis systems—EUS, USA, ML-2, and HALO—that the Agency announced plans to cancel or repurpose as part of a broader reformulation of the Artemis campaign. For each system, we evaluated its cost, schedule, and development posture as well as the estimated cost and schedule at completion if it had continued at similar performance levels.

To perform this review, we examined documentation for each system across a range of time frames.

EUS. Documentation reviewed included select contract modifications between February 2017 and May 2026, conformed contracts from April 2023 and May 2026, contractor monthly financial management reports from February 2020 through March 2026, project schedule data for 62 out of 70 months between April 2020 through January 2026, and award fee performance evaluation reports from 2024 and 2025.

USA. Documentation reviewed included the original contract from June 2017, select contract modifications between September 2018 and September 2025, the conformed contract from February 2026, contractor monthly financial management reports for 76 out of 104 months between July 2017 and February 2026, project schedule data from December 2017 through January 2026, and award fee performance evaluation reports from 2024 and 2025.

ML-2. Documentation reviewed included select contract modifications between November 2019 and May 2026, the conformed contract from April 2019, contractor monthly financial management reports and project schedule data from August 2023 through February 2026, and award fee performance evaluation reports from October 2023 through September 2025.

HALO. Documentation reviewed included the original contract from September 2015, select contract modifications between November 2015 and March 2026, conformed contracts from September 2024 and March 2026, contractor monthly financial management reports from October 2024 through February 2026, project schedule data from October 2024 through February 2026, and award fee performance evaluation reports from 2024 and 2025.

While we reviewed program and project status and risk documentation, we did not interview NASA officials.

Assessment of Data Reliability

We used computer-processed data for this audit. To describe the cost of the four Artemis systems, we reviewed and analyzed NASA cost data from the Agency's financial accounting system, contract files, and contractor monthly financial management reports. We concluded that the data was sufficiently reliable for our purposes.

To forecast completion dates for each of the four canceled or repurposed Artemis systems, we obtained the contractors' integrated master schedule files, which are the primary project schedule data source provided to NASA for project management and decision-making. We did not perform electronic testing

or validation of the schedule files. We collaborated with the OIG's Office of Data Analytics and used the NASA Schedule Analysis Tool to forecast project completion dates using task data from the contractor schedules. Although forecasts depend on the accuracy and completeness of the historical schedule data maintained by the contractors, we determined that the NASA Schedule Analysis Tool forecasts were sufficiently reliable for the purposes of this interim memorandum.

Finally, to forecast total project costs at our forecasted completion dates, we used the contractors' historical estimates at completion. Using contractor monthly financial management reports, we compiled a database of contractor-reported estimates at completion for each project and performed electronic testing of the database for completeness and consistency. We then applied an exponential smoothing model to historical growth in contractor-provided estimates at completion to project future costs. Each projection required unique assumptions to account for differences in contract structures, procurement histories, and data availability.

Due to the extended projected completion date for HALO and limited availability of historical contractor monthly financial management reports, we were unable to develop a complete cost projection for that project. Although our projections depend on the accuracy and completeness of contractor-reported cost data and the assumptions underlying each forecasting model, we determined the resulting cost projections were sufficiently reliable for the purposes of this memorandum, except HALO, for which data limitations precluded a complete forecast.

Prior Coverage

The four NASA OIG reports mentioned in this memorandum can be found below. Reports can also be accessed at https://oig.nasa.gov/audits/.

NASA's Management of the Mobile Launcher 2 Project (IG-24-016, August 27, 2024)

NASA's Management of Space Launch System Block 1B Development (IG-24-015, August 8, 2024)

NASA's Management of the Mobile Launcher 2 Contract (IG-22-012, June 9, 2022)

NASA's Management of the Gateway Program for Artemis Missions (IG-21-004, November 10, 2020)

Enclosure II: Management's Comments

National Aeronautics and Space Administration

Mary W. Jackson NASA Headquarters
Washington, DC 20546-0001

Reply to Attn of: Exploration Systems Development Mission Directorate

TO: Deputy Assistant Inspector General for Audits

FROM: Acting Associate Administrator for Exploration Systems Development Mission Directorate

SUBJECT: Agency Response to OIG Draft Interim Memorandum, "Terminated Projects: Cancelled or Repurposed Artemis Campaign Systems" (A-26-06-00-SARD)

The National Aeronautics and Space Administration (NASA) appreciates the opportunity to review and comment on the Office of Inspector General (OIG) draft interim memorandum, "Terminated Projects: Cancelled or Repurposed Artemis Campaign Systems" (A-26-06-00-SARD), received June 3, 2026. The Agency values the OIG's role in independently assessing cost, performance, and long-term program risks, particularly during this period of strategic refocusing cadence under the President's National Space Policy.

NASA's Ignition Day was the public announcement and strategic rollout of a restructured Artemis campaign, outlining a streamlined, affordability-focused architecture designed to enable a sustainable annual cadence of crewed lunar landings. These strategic updates align with the President's direction to sustain American leadership in space and to build an enduring presence on the lunar surface. The OIG's observations regarding historical cost and schedule performance help underscore why a streamlined architectural approach is beneficial for long-term mission success.

The interim memorandum documents substantial growth from the original baseline cost and schedule for all four systems, and NASA agrees that each system has experienced significant challenges due to contractor performance issues, evolving mission requirements, supply chain constraints, and workforce management complexities. However, these challenges must be understood within the broader architectural evolution of the Artemis campaign since these systems' inception, including the shift toward standardized mission designs—exemplified by the Artemis II reference mission—that are central to establishing a disciplined and repeatable cadence. As the campaign matured, foundational assumptions regarding staging, co-manifested payloads, and launch vehicle configurations changed materially. While the OIG's projections indicate that continuing these systems would likely increase total lifecycle cost, NASA stresses that these projections rely on past performance under outdated architectural assumptions that do not reflect the Ignition Day principles of discipline, affordability, simplification, and speed.

The Agency acknowledges the OIG's examples where evolving requirements contributed to cost and schedule growth. NASA is enhancing internal controls to lock requirements earlier in the development cycle and applying lessons learned to drive future procurements toward firm-fixed-price structures where practicable and to leverage commercial offerings. Through the Artemis reformulation, the Agency has reprioritized investments to systems that directly support the annual landing cadence and surface sustainability strategy.

NASA notes that the challenges summarized in the memorandum—cost growth, schedule slips, contractor performance issues, and evolving mission requirements—reinforce the rationale behind the decisions publicly announced during Ignition Day to streamline the Artemis architecture, modernize acquisition practices, and align programs with the Nation's objectives for sustained lunar presence.

The Agency looks forward to supporting the OIG's continued audit work on terminated missions and remains committed to transparency, responsible stewardship, and advancing America's leadership in lunar exploration.

We have reviewed the draft memorandum for information that should not be publicly released. As a result of this review, we have not identified any information that should not be publicly released.

Once again, thank you for the opportunity to review and comment on the subject draft memorandum. If you have any questions or require additional information regarding this response, please contact Christine Solga at (202) 309-6059.

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