

# House Science, Space, and Technology Committee

## Chairman Frank Lucas

### NASA Reauthorization Act of 2024

#### Section-by-Section

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#### ***Section 1: Short Title; Table of Contents***

States the short title and includes the table of contents for the bill.

#### ***Section 2: Definitions***

Provides definitions for terms used throughout the Act.

#### **Title I – AUTHORIZATION OF APPROPRIATIONS**

#### ***Section 101: Fiscal Year 2025***

Provides the authorization of appropriations for Fiscal Year 2025.

#### **Title II – EXPLORATION**

#### ***Section 201: Continuity of Purpose for Space Exploration***

Reaffirms the Nation's commitment to human space exploration and acknowledges the important role it plays in maintaining U.S. leadership in space as well as enhancing U.S. international competitiveness. Specifically, this section directs NASA to continue the development of space exploration elements under the Moon to Mars program. It also directs NASA to leverage private sector logistical services to support exploration activities.

#### ***Section 202: Artemis Program***

Acknowledges the value of maintaining a steady cadence of Artemis missions, including enabling U.S. leadership in discussions of future norms governing activities in space. Specifically, this section directs NASA to use relevant exploration assets, including the Space Launch System and Orion crew vehicle, to carry out Artemis missions. It also directs NASA to engage with international partners and leverage relevant commercial capabilities. This section also authorizes NASA to enter into agreements with U.S. commercial providers to procure capabilities and services to support the human exploration of the Moon or cislunar space.

#### ***Section 203: Reaffirmation of the Space Launch System***

Supports the development of full capabilities for the Space Launch System (SLS) as an element of the Moon to Mars Program. It also reaffirms the flight rate of integrated Space Launch System and Orion crew vehicle missions set forth in section 10812(b) of the NASA Authorization Act of 2022. Specifically, this section directs NASA to assess the demand for the SLS by entities other than NASA. The assessment will estimate cost and schedule savings as well as any barriers or challenges that could prevent SLS use for other missions, including potential actions and costs associated with

overcoming them. It also requires NASA to submit a report to the appropriate committees of Congress covering the Agency's progress towards achieving the flight rate as well as describing the results of the other uses assessment.

#### ***Section 204: Human Lunar Landing Capabilities***

Reaffirms the inclusion of human-rated landing systems as an element of the Moon to Mars program. Specifically, it directs NASA to support the development, demonstration, and obtainment of human lunar landing capabilities while ensuring such capabilities meet all relevant NASA requirements, including for human-rating and certification.

This section also directs four reports to Congress. First, within 60 days of enactment, a report identifying the contribution over the past 5 years, and the planned contribution for 2024-2029, of government personnel, technology, and infrastructure both utilized and to be utilized in support of the design, development, or operation of human lunar landing capabilities. Next, within 90 days of enactment, a report describing each agreement with a U.S. commercial provider. Third, within 180 days of enactment, a report covering any steps each provider is taking to address cost, schedule, and performance challenges faced, as well as to facilitate the availability of human lunar landing services. Finally, within 180 days of enactment, a report on alternative approaches, including implementation plans for such approaches, for a human lunar landing capability in the event of challenges to contracted providers.

#### ***Section 205: Advanced Spacesuit Capabilities***

Directs NASA to obtain the advanced spacesuit capabilities necessary to achieve the goals of NASA's human spaceflight exploration programs. It further directs NASA to obtain capabilities from U.S. commercial providers. It also directs NASA to maintain the internal expertise necessary to develop spacesuits for both extravehicular activity and surface operations. It also directs NASA to submit a report to the appropriate committees of Congress describing NASA's plans for in-space testing of advanced spacesuit capabilities, the transition from the existing spacesuits used on the International Space Station (ISS) to advanced spacesuits, and future advanced spacesuit use on any nongovernmental successor platform in low-Earth orbit (LEO).

This section also directs NASA to enter into an arrangement with an independent science and technical engineering organization to review the technical status and performance of the Administration's existing extravehicular mobility units and submit the results to the appropriate committees of Congress.

### **TITLE III – SPACE OPERATIONS**

#### ***Section 301: Report on Continued United States Presence in Low-Earth Orbit***

Directs the Comptroller General to submit a report to the appropriate committees of Congress covering NASA's plans for implementing the policy to maintain an uninterrupted capability for human space flight and operations in LEO, pursuant to section 70501(a) of title 51, United States Code. The report will also consider NASA's preparedness to comply with the uninterrupted capability policy based on the planned approach to deorbit the International Space Station no later than 2031.

### ***Section 302: International Space Station***

Enables the greatest return on the U.S. investment in the ISS by directing NASA to maximize the utilization and productivity of the Station pursuant to the priorities laid out under section 10816 of the NASA Authorization Act of 2022. This includes research of the human research program, risk reduction activities for exploration technologies, the advancement of United States leadership of basic and applied space life and physical sciences, and other research and development essential to Moon to Mars activities.

### ***Section 303: Nongovernmental Missions on the International Space Station***

Authorizes NASA to enter into one or more agreements to allow U.S. commercial providers to conduct nongovernmental missions to the ISS, pursuant to NASA policies and procedures and federal government laws and regulations. This section also directs the Comptroller General to submit a report to the appropriate committees of Congress describing the number of missions awarded as well as completed, the extent to which commercial entities fully reimburse NASA for costs associated with their mission, and the impact of these missions on ISS operations and activities.

### ***Section 304: Report on Suborbital Crew Missions***

Directs NASA to deliver a report to the appropriate committees of Congress covering the costs, benefits, risks, training requirements, and policy or legal implications, including liability, of launching U.S. government personnel on commercial suborbital vehicles.

### ***Section 305: United States Deorbit Capabilities***

Directs NASA to obtain ISS deorbit capabilities from one or more U.S. commercial providers. In doing so, it directs NASA to not reduce or deprioritize activities conducted on the ISS to support the development of United States deorbit capabilities. This section directs NASA to obtain an independent life-cycle cost analysis for the deorbit capability prior to entering into an agreement with a provider. It also directs NASA to submit a report to Congress detailing NASA's plan for the financial, logistical, and operational responsibilities associated with the deorbit capability. It also directs an annual report accompanying the President's budget request that contains a description of the annual and lifecycle costs for activities related to the deorbit of the ISS, including how they're shared among ISS partners.

### ***Section 306: Commercial Low-Earth Orbit Development***

Directs NASA to develop an architecture to advance NASA and other relevant federal government civil research, development, and operational requirements in LEO. The architecture will include a mix of crewed and uncrewed platforms and consider an incremental approach to achieving the full suite of capabilities needed to meet NASA's requirements in LEO. It also directs NASA to develop and make available a detailed account of the Agency's research, development, and operational requirements for LEO.

This section authorizes NASA to enter into an agreement with a commercial provider to either support the development and certification of, or to procure capabilities from, a private LEO platform. It further authorizes NASA to use such capabilities to support human exploration

objectives. It also directs NASA to provide the results of the independent survey and assessment of the market for capabilities and services that may be provided through future United States commercial low-Earth orbit platforms. It also requires commercial providers to use U.S. commercially provided launch and reentry services for all activities under the agreement and ensures the safety of U.S. government astronauts by requiring each platform used to provide services under this section to meet all applicable human rating processes and requirements.

#### **TITLE IV – SPACE TECHNOLOGY**

##### ***Section 401: SBIR Phase II Flexibility***

Grants NASA similar Small Business Innovation Research (SBIR) authority to other federal agencies, including the National Institutes of Health, the Department of Defense (DOD), and the Department of Education. Specifically, it amends section 638 of title 15, United States Code, to authorize NASA to issue direct to Phase II SBIR awards.

##### ***Section 402: Lunar Power Purchase Agreement Program***

Authorizes NASA to enter into an arrangement with an independent entity to conduct a study on the feasibility of using power purchase agreements to facilitate the development and deployment of lunar surface power. The study will identify the needed infrastructure and capabilities to support lunar surface power production, forecast the demand for lunar surface power, and consider associated policy and legal challenges. It also directs a report to the appropriate committees of Congress covering the study's findings.

##### ***Section 403: Cryogenic Fluid Valve Technology Review***

Directs NASA to enter into an agreement with an appropriate independent organization to conduct a review of cryogenic fluid valve technology, subject to the availability of appropriations. The review will assess ongoing public and private sector research and development efforts to improve cryogenic fluid valve technologies. It also directs the independent organization to submit a report covering the review's results to both NASA and the appropriate committees in Congress.

##### ***Section 404: Lunar Communications***

Supports human and robotic lunar exploration activities by authorizing NASA to develop and maintain a robust architecture for lunar communications and navigation. This section also directs NASA to develop a study and prepare a plan to inform the development of the architecture. It also directs NASA to submit the results of the study and plan to the appropriate committees of Congress.

#### **TITLE V – AERONAUTICS**

##### ***Section 501: Definitions***

This section provides definitions for terms used throughout the Aeronautics Title.

##### ***Section 502: Experimental Aircraft Demonstrations***

Directs NASA to conduct a study of past and future experimental aircraft demonstrator projects. The study will identify systems, capabilities, and technologies that could be matured and demonstrated on future experimental aircraft demonstrator projects and provide a description of the

appropriate criteria for determining the readiness of a system, capability, or technology to be demonstrated on a future project. The study will also include a comprehensive assessment of lessons learned from NASA's experimental aircraft demonstration projects over the last decade. This will include an assessment of each project's ability to meet cost, schedule, and performance goals; an evaluation of the system, capability, or technology each project matured; and an evaluation of how each project has contributed to advancing the U.S. aircraft and aviation industries.

### ***Section 503: Hypersonic Research***

Directs NASA to continue to carry out basic and applied hypersonic research. This section also directs NASA to update the hypersonic research roadmap in coordination with the Federal Aviation Administration (FAA) and the DOD and in consultation with industry and academia. In conducting the update, NASA is authorized to consider system-level design, analysis, and validation of hypersonic aircraft technologies; propulsion capabilities and technologies; vehicle technologies, including vehicle flow physics and thermal management; and advanced materials. It also directs NASA to brief the appropriate committees of Congress on NASA research under this section, as well as the updates to the research roadmap.

### ***Section 504: Advanced Materials and Manufacturing Technology***

Directs NASA to submit a report to the appropriate committees of Congress on the status of NASA's activities related to the Advanced Materials and Manufacturing Technology Program, pursuant to section 10831(e) of the NASA Authorization Act of 2022.

### ***Section 505: Unmanned Aircraft System and Advanced Air Mobility***

Supports research to enable autonomy as well as the integration of unmanned aircraft systems and advanced air mobility into the national airspace system. Specifically, this section directs NASA to continue research in collaboration with the FAA, other relevant federal agencies, and appropriate representatives of academia and industry on unmanned aircraft systems and advanced air mobility, including research related to Unmanned Aircraft System Traffic Management (UTM) and autonomous capabilities. It also directs NASA to brief the appropriate committees of Congress on the progress of research under this section.

### ***Section 506: Advanced Capabilities for Emergency Response Operations***

Directs the Administrator to conduct research and development activities to improve aerial responses to wildfires under the Advanced Capabilities for Emergency Response Operations (ACERO) program by leveraging NASA-developed tools and technologies. Such research and development will focus on the management, deconfliction, and coordination of aerial assets during wildfire response efforts; information sharing and real-time data exchange for wildfire response teams; development of an interoperable platform to provide situational awareness of aerial assets during wildfire response; and the establishment of a multi-agency concept of operations to enable coordination of aerial activities for wildfire response. In carrying out such research, it authorizes cooperation with other federal, state, and local government agencies, regional organizations, commercial partners, and academic institutions. It also directs the Administrator to consult with other federal departments and agencies to avoid duplication of activities. This section also prohibits

NASA from procuring unmanned aircraft systems manufactured or assembled by a covered foreign entity to conduct activities described in this section. It also directs the Administrator to submit an annual report to Congress describing the activities, including results, carried out pursuant to this section.

***Section 507: Hydrogen Aviation***

Authorizes NASA to carry out research on emerging technologies related to hydrogen aviation, taking into account the strategy and research conducted pursuant to section 1019 of the FAA Reauthorization of 2024. It also directs NASA to submit a report to the appropriate committees of Congress on the findings of the research under this section.

***Section 508: High-Performance Chase Aircraft***

Directs NASA to provide the appropriate committees of Congress with a biannual briefing on NASA's strategy to explore opportunities for collaborative research and flight asset sharing with the DOD; to seek aircraft parts and engines to keep NASA's current fleet operational, including the potential use of 3-D additive manufactured parts; and to use or acquire DOD aircraft.

***Section 509: Collaboration with Academia***

Acknowledges the value of NASA's collaboration with academia, including inspiring the next generation to pursue STEM education and careers and contributing to training and developing the next generation of the aeronautics workforce.

***Section 510: National Student Unmanned Aircraft Systems Competition Program***

Establishes a national pilot program to carry out technology competitions in which high school and undergraduate students compete to design, create, and demonstrate unmanned aircraft systems. Specifically, it directs NASA to award a grant to either a nonprofit organization or institution of higher education to administer the pilot program competitions and provides eligibility criteria for potential awardees. This section also states the competition administrator's responsibilities, which include awarding grants to institutions of higher education or nonprofit organizations to host individual competitions, developing STEM curriculum to be utilized by the competition awardees, and ensuring awardees are supporting the activities laid out in this section, including by conducting performance evaluations of competitions. It also directs the Administrator to submit a report to the appropriate committees of Congress describing the accomplishments, lessons learned, any challenges in the implementation of the pilot program, and recommendations for whether to continue the pilot program.

***Section 511: Decadal Survey for National Aeronautics Research and Priorities Review***

Establishes a decadal survey to guide civil aeronautics research and development. Specifically, it directs NASA, in consultation with other relevant federal agencies, to enter into an arrangement with the National Academies to conduct a decadal survey for the 2025 to 2035 decade, including recommending research priorities to sustain United States leadership in civil aeronautics research and development and support a safe and sustainable future for aviation. It also authorizes the Academies to provide recommendations related to the dissemination and transition of such research and development to the U.S. commercial aviation and aircraft industries. This section also directs

the Administrator to submit the results of the survey, including recommendations, to the appropriate committees of Congress.

## **TITLE VI – SCIENCE**

### ***Section 601: Maintaining a Balanced Science Portfolio***

Affirms the benefits of a balanced Science Mission Directorate portfolio and encourages NASA to follow the recommendations and guidance provided by the National Academies' decadal surveys. Specifically, this section reaffirms the U.S. policy to ensure a steady cadence of large, medium, and small science missions, as set forth in section 501(c) of the NASA Transition Authorization Act of 2017.

### ***Section 602: Implementation of Science Mission Cost-Caps***

Directs the Comptroller General to conduct a review of NASA practices related to the establishment of and compliance with cost-caps of competitively selected, principal investigator-led science missions. The review will assess the appropriateness of existing cost caps for different classes of missions and consider their effectiveness; describe the information NASA requires as part of a proposal submission related to project cost estimates and its effectiveness; and consider the processes that NASA uses to evaluate costs associated with mission proposals and determine cost caps on missions, including the accuracy of such assessments. It will also evaluate any missions that have exceeded their cost cap, beginning in 2000, including a description of how each cost cap breach impacted the mission as well as other science missions.

### ***Section 603: Reexamination of Decadal Priorities***

Amends sections 20305(c) and 30503(a) of title 51, United States Code, to update NASA's evaluation of decadal survey priorities in light of the budgetary environment. Specifically, it updates the mid-decadal review process to include an assessment of whether the prioritization of research and programmatic areas in the decadal survey should be reconsidered to account for significant changes to the NASA budget.

### ***Section 604: LANDSAT***

Directs NASA to submit a report to the appropriate committees of Congress describing the Agency's efforts to comply with the private sector preference requirements outlined in Section 60134 of title 51, United States Code. The report will also detail what aspects of Landsat Next or any other Landsat observations could be provided by private sector data buys or service procurements, including the tradeoffs of such utilization.

### ***Section 605: Private Earth Observation Data***

Enables the Federal Government's procurement of private sector Earth observation data and services. Specifically, it amends section 18371 of title 42, United States Code, by adding language that directs the Office of Science and Technology Policy (OSTP) to consider commercial Earth observation data when developing future updates to the civil Earth observation strategic implementation plan. This section also directs the Comptroller General to assess OSTP's

compliance with the consideration of private sector capabilities directed in this section and submit a report to the appropriate committees of Congress.

***Section 606: Commercial Satellite Data***

Expands on NASA's successful Commercial SmallSat Data Acquisition Pilot Program. Specifically, this section amends chapter 603 of title 51, United States Code, by adding a section that directs NASA to establish a program to acquire and disseminate commercial Earth remote sensing data and imagery within the Science Mission Directorate. It also authorizes the Administrator to procure the commercial Earth remote sensing data and imagery from commercial vendors and establish or modify end-use license terms and conditions to allow for the use of such data and imagery by individuals other than NASA-funded users. It also directs NASA to submit a report to the appropriate committees of Congress covering the agreements, vendors, license terms, and uses of commercial Earth remote sensing data and imagery under this section.

***Section 607: Greenhouse Gas Emission Measurements***

Directs NASA to assess the GeoCarb hardware and seek to validate the instrument. It also directs NASA to evaluate the hardware's capabilities, including the potential to repurpose it for other scientific uses. NASA is directed to submit the results of the assessment to the appropriate committees of Congress. This section also directs NASA to enter into an agreement with the National Academies to develop a science-based strategy to assess and evaluate the use of present and future greenhouse gas monitoring and detection capabilities. It also authorizes NASA to use the strategy to inform the planning of research and development activities regarding greenhouse gas monitoring and detection. Additionally, it directs the National Academies to submit a report on the strategy to both NASA and the appropriate committees of Congress.

***Section 608: NASA Data for Agricultural Applications***

Supports the U.S. agriculture community by leveraging NASA Earth observation capabilities. Specifically, this section directs NASA to continue to partner with relevant federal agencies to disseminate relevant NASA-generated Earth observation data and research products to support American agricultural producers. It also directs NASA to continue to develop mechanisms to transition relevant NASA Earth science research findings, data, information, models, and capabilities to operational governmental and private sector entities. Finally, it directs NASA to engage state and local government agencies, institutes of higher education, and agriculture producer organizations from the public and private sectors to improve the dissemination of NASA-generated data.

***Section 609: Planetary Science Portfolio***

Reaffirms the direction for NASA to ensure the completion of a balanced set of Discovery, New Frontiers, and Flagship missions at the cadence recommended by the most recent Planetary Science Decadal Survey, pursuant to section 502(b)(1) of the NASA Transition Authorization Act of 2017. This section also reaffirms the authorization for NASA to make adjustments to mission priorities, schedule, and scope in light of changing budget projections, under section 502(b)(1).

***Section 610: Planetary Defense***



Amends chapter 711 of title 51, United States Code, by adding a section that directs NASA to maintain a Planetary Defense Coordination Office, pursuant to section 10825 of the NASA Authorization Act of 2022. It also states the Office's responsibilities, which include developing and implementing a program to survey threats posed by near-Earth objects; issuing warnings of the effects of potential impacts of such objects; investigating strategies and technologies for mitigating the potential impacts of such objects; and assisting in coordinating government planning for response to a potential impact of a near-Earth object.

***Section 611: Lunar Discovery and Exploration***

Authorizes NASA to carry out a program to accomplish science objectives for the Moon as recommended by the most recent decadal survey for planetary science and astrobiology. This includes assessing the need for and facilitating the development of instrumentation to support the scientific exploration of the Moon. This section also directs NASA to define high-priority lunar science objectives pursuant to decadal recommendations, other scientific consensus recommendations, and related requirements of an integrated Artemis science strategy.

***Section 612: Commercial Lunar Payload Services***

Authorizes NASA to establish a Commercial Lunar Payload Services (CLPS) program to procure delivery services for NASA payloads to the surface of the Moon from one or more commercial providers. It directs NASA to conduct updated market research on the commercial lunar economy, assess the Agency's needs and role in the commercial lunar delivery market, assess the effectiveness of the task order approach in advancing the commercial development of lunar delivery services, and strengthen procedures related to the requirements and selection of payloads. This section also directs NASA to prepare and implement a management plan for the CLPS program, informed by the study conducted, and brief the appropriate committees of Congress on the implementation of the plan. To ensure alignment of goals for lunar services, NASA is also directed to ensure coordination between the Mission Directorates and the Moon to Mars Program on such missions.

***Section 613: Planetary and Lunar Operations***

Directs NASA to develop a plan to ensure continuity of observational and operational capabilities at the Moon and Mars necessary to continue to enable a robust science program, including opportunities to engage both private and international partners.

***Section 614: Mars Sample Return***

Directs NASA to lead a program to enable the return of scientifically selected samples from Mars to Earth, consistent with the recommendations of the decadal survey for planetary science. It also directs NASA to ensure the program sustains U.S. leadership in the scientific exploration of Mars, maintains NASA capabilities to land and operate on Mars, preserves the unique and long-term institutional expertise required, and maintains a balanced and robust planetary science portfolio. This section also directs NASA to submit the plan to the appropriate committees of Congress.

***Section 615: Hubble Space Telescope Servicing***

Directs NASA to submit a report to the appropriate committees of Congress that includes the results of any studies conducted in the last five years regarding the technical feasibility of safely reboosting

Hubble. This includes any such studies regarding the technical feasibility of using private sector capabilities.

***Section 616: Great Observatories Mission and Technology Maturation***

Supports technology maturation efforts for future Great Observatories by directing NASA to establish a Great Observatories and Technical Maturation project to mature the mission concepts and technologies needed for a future astrophysics mission. The project will inform future missions by determining their appropriate scope as well as the range of capabilities needed and inform the development and maturing of science and technologies needed for such missions. It also directs the Administrator to submit an annual report to Congress on the establishment and progress of any projects within Astrophysics programs.

***Section 617: Nancy Grace Roman Telescope***

Directs the Administrator to continue the development of the Nancy Grace Roman Space Telescope pursuant to section 10823(b) of the NASA Authorization Act of 2022.

***Section 618: Chandra X-Ray Observatory***

Directs NASA to avoid reducing or otherwise precluding the continuation of science operations of the Chandra X-ray telescope, prior to the completion of the next triennial review of mission extensions for the Astrophysics division.

***Section 619: Heliophysics Research***

Encourages NASA to maintain a balanced Heliophysics portfolio to maximize the scientific return on investment by following the recommendations and guidance provided by the National Academies' most recent decadal survey for solar and space physics. It also directs NASA to maintain a regular Explorer Announcement of Opportunity cadence and alternate between small and mid-sized missions and enable a regular selection of Missions of Opportunity.

***Section 620: Study on Commercial Space Weather Data***

Directs NASA to assess the extent to which commercially available data could advance space weather research, including the priorities of the decadal survey on solar and space physics. The study will evaluate commercial capabilities that meet or exceed NASA's science and technical standards and requirements. It will also include recommendations and opportunities for the federal government to facilitate the use of commercially available solutions options for space weather data as well as options for partnerships or use of NASA prize authority and competitions to obtain relevant data. It also directs NASA to submit a report to the appropriate committees of Congress containing the results of the study, along with any recommendations.

***Section 621: Geospace Dynamics Constellation***

Directs the Administrator to submit a report to the appropriate committee of Congress on the Geospace Dynamics Constellation (GDC). The report will assess the current status of development as well as the schedule and budget profile to launch GDC.

**TITLE VII – STEM EDUCATION**

### ***Section 701: National Space Grant College and Fellowship Program***

Amends chapter 403 of title 51, United States Code, to update NASA's National Space Grant College and Fellowship Program. Specifically, it replaces the current process of entities applying for grants by establishing a process whereby NASA issues solicitations for the award of grants. It also updates the program implementation, including providing funding allocation and matching requirements. It also directs the program's funding to cover all costs associated with the administration of the program. This section also directs NASA to make arrangements for an independent external review of the National Space Grant College and Fellowship Program and submit the results to the appropriate committees of Congress.

## **TITLE VIII – POLICY/NASA**

### ***Section 801: Major Programs***

Amends section 30104 of title 51, United States Code, to update the reference to the most recent version of NASA procedural requirements, 7120.5F.

### ***Section 802: NASA Advisory Council***

Amends section 20113(g) of title 51, United States Code, by including Congress in the NASA Advisory Council's reporting requirements. Specifically, this section directs advisory committees to provide advice to Congress as well as the Administration. It also establishes a sunset for this provision in 2028.

### ***Section 803: NASA Assessment of Early Cost Estimates***

Directs the Comptroller General to review the development, application, and assessment of early cost estimates made prior to preliminary design review for NASA missions. The review will assess the process NASA uses to form early-stage cost estimates, evaluate costs associated with proposals for missions, and monitor and manage estimates throughout the execution of the program. This section also directs the Comptroller to submit a report to the appropriate committees of Congress covering the review along with any recommendations.

### ***Section 804: Independent Cost Estimate***

Amends section 30307 of title 51, United States Code, to update NASA's independent cost analysis requirements. Specifically, it changes the requirement from a life-cycle cost analysis to a life-cycle cost estimate and prohibits the obligation of funds for a project prior to NASA reporting the results of the life-cycle cost estimate to Congress.

### ***Section 805: Office of Technology, Policy, and Strategy Report***

Directs NASA's Office of Technology, Policy, and Strategy to prepare and submit an annual report describing efforts of the Office during the previous calendar year as well as Office priorities for the upcoming calendar year to the appropriate committees of Congress.

### ***Section 806: Authorization for the Transfer to NASA of Funds from Other Agencies for Scientific or Engineering Research or Education***

Authorizes NASA to receive and use funds transferred from any federal department or agency for scientific or engineering research or education, or the provision of relevant facilities. It also directs the Administrator to include a description of the activities under the authority provided by this section during the immediately preceding fiscal year in NASA's annual budget justification materials. Such description will include an identification of the department or agencies that transferred funds, including the total amount transferred; the purposes for which such funds were appropriated to each agency or department; and the NASA program or activity that such funds were made available to, along with the purpose and NASA funding for each program or activity. It also directs a report summarizing the value of the authority provided by this section and an identification of any barriers or challenges to implementing such authority.

***Section 807: Procedure for Launch Services Risk Mitigation***

Directs NASA to enter into an arrangement for an independent external assessment of NASA's approach towards launch services risk mitigation, including the effectiveness and efficiency of NASA Procedural Requirement 8610.7D. This section also directs the Administrator to submit the report covering the assessment conducted along with any NASA responses to the findings to the appropriate committees in Congress.

***Section 808: Report on Merits and Options for Establishing an Institute Relating to Space Resources***

Directs the Administrator and Secretary of Commerce to jointly submit a report on the merits and options for establishing an institute relating to space resources. The report will evaluate how the institute would support NASA objectives, including identifying, developing, and distributing space resources; maximizing the responsible use of space resources; and developing options for using space resources, including to support current and future space architectures, programs, and missions. The report will also make additional considerations as to whether a virtual or physical institute is most cost-effective and appropriate, as well as whether partnering with institutions of higher education and the aerospace and appropriate extractive industries would be effective.

***Section 809: Reports to Congress***

Directs NASA to include the House Science, Space, and Technology Committee and Senate Commerce, Science, and Transportation Committee as a recipient of any report or notice provided to Congress. It also directs NASA to notify the same Committees if the U.S. becomes a signatory to an international agreement concerning outer space activities.