FAA Modernization and Reform Act of 2012
Conference Report to accompany H.R. 658

This document highlights—in yellow—space-related provisions in the FAA Modernization and Reform Act of 2012. It also highlights aviation activities to be undertaken by NASA. Please note this document reflects the exact language from the Conference Report accompanying H.R. 658.

Title II—NextGen Air Transportation System and Air Traffic Control Modernization

Sec. 208 Next Generation Air Transportation System Joint Planning and Development Office

(a) Redesign of JPDO Director to Associate Administrator.—

(1) Associate Administrator for Next Generation Air Transportation System Planning, Development, and Interagency Coordination.—Section 709(a) of the Vision 100—Century of Aviation Reauthorization Act (49 U.S.C. 40101 note; 117 Stat. 2582) is amended—

(A) by redesignating paragraphs (2), (3), and (4) as paragraphs (3), (4), and (5), respectively; and

(B) by inserting after paragraph (1) the following:

''(2) The head of the Office shall be the Associate Administrator for Next Generation Air Transportation System Planning, Development, and Interagency Coordination, who shall be appointed by the Administrator of the Federal Aviation Administration, with the approval of the Secretary. The Administrator shall appoint the Associate Administrator after consulting with the Chairman of the Next Generation Senior Policy Committee and providing advanced notice to the other members of that Committee.''.

(2) Responsibilities—Section 709(a)(3) of such Act (as redesignated by paragraph (1) of this subsection) is amended—

(A) in subparagraph (G) by striking ''; and'' and inserting a semicolon;

(B) in subparagraph (H) by striking the period at the end and inserting a semicolon; and

(C) by adding at the end the following:

''(I) establishing specific quantitative goals for the safety, capacity, efficiency, performance, and environmental impacts of each phase of Next Generation Air Transportation System planning and development activities and measuring actual operational experience against those goals, taking into account noise pollution reduction concerns of affected communities to the extent practicable in establishing the environmental goals;

''(J) working to ensure global interoperability of the Next Generation Air Transportation System;

''(K) working to ensure the use of weather information and space weather information in the Next Generation Air Transportation System as soon as possible;

‘‘(L) overseeing, with the Administrator and in consultation with the Chief NextGen Officer, the selection of products or outcomes of research and development activities that should be moved to a demonstration phase; and

‘‘(M) maintaining a baseline modeling and simulation environment for testing and evaluating alternative concepts to satisfy Next Generation Air Transportation System enterprise architecture requirements.’’.

(3) Cooperation with Other Federal Agencies—Section 709(a)(4) of such Act (as redesignated by paragraph (1) of this subsection) is amended--

(B) The Secretary of Defense, the Administrator of the National Aeronautics and Space Administration, the Secretary of Commerce, the Secretary of Homeland Security, and the head of any other Federal agency from which the Secretary of Transportation requests assistance shall designate a senior official in the agency to be responsible for—

(i) carrying out the activities of the agency relating to the Next Generation Air Transportation System in coordination with the Office, including the execution of all aspects of the work of the agency in developing and implementing the integrated work plan

‘‘(ii) serving as a liaison for the agency in activities of the agency relating to the Next Generation Air Transportation System and coordinating with other Federal agencies involved in activities relating to the System; and

‘‘(iii) ensuring that the agency meets its obligations as set forth in any memorandum of understanding executed by or on behalf of the agency relating to the Next Generation Air Transportation System.

‘‘(C) The head of a Federal agency referred to in subparagraph (B) shall—

‘‘(i) ensure that the responsibilities of the agency relating to the Next Generation Air Transportation System are clearly communicated to the senior official of the agency designated under subparagraph (B);

‘‘(ii) ensure that the performance of the senior official in carrying out the responsibilities of the agency relating to the Next Generation Air Transportation System is reflected in the official’s annual performance evaluations and compensation;

‘‘(iii) establish or designate an office within the agency to carry out its responsibilities under the memorandum of understanding under the supervision of the designated official; and

‘‘(iv) ensure that the designated official has sufficient budgetary authority and staff resources to carry out the agency’s Next Generation Air Transportation System responsibilities as set forth in the integrated plan under subsection (b).

‘‘(D) Not later than 6 months after the date of enactment of this subparagraph, the head of each Federal agency that has responsibility for carrying out any activity under the integrated plan under subsection (b) shall execute a memorandum of understanding with the Office obligating that agency to carry out the activity.’’.

(4) Coordination with OMB.—Section 709(a) of such Act (117 Stat. 2582) is further amended by adding at the end the following:

‘‘(6)(A) The Office shall work with the Director of the Office of Management and Budget to develop a process whereby the Director will identify projects related to the Next Generation Air Transportation System across the agencies referred to in paragraph (4)(A) and consider the Next Generation Air Transportation System as a unified, cross-agency program.

‘‘(B) The Director of the Office of Management and Budget, to the extent practicable, shall—

‘‘(i) ensure that—

‘‘(I) each Federal agency covered by the plan has sufficient funds requested in the President’s budget, as submitted under section 1105(a) of title 31, United States Code, for each fiscal year covered by the plan to carry out its responsibilities under the plan; and

‘‘(II) the development and implementation of the Next Generation Air Transportation System remains on schedule;

‘‘(ii) include, in the President’s budget, a statement of the portion of the estimated budget of each Federal agency covered by the plan that relates to the activities of the agency

‘‘(iii) identify and justify as part of the President’s budget submission any inconsistencies between the plan and amounts requested in the budget.

‘‘(7) The Associate Administrator for Next Generation Air Transportation System Planning, Development, and Interagency Coordination shall be a voting member of the Joint Resources Council of the Federal Aviation Administration.’’.

(b) INTEGRATED PLAN.—Section 709(b) of such Act (117 Stat. 2583) is amended—

(1) in the matter preceding paragraph (1)—

(A) by striking ‘‘meets air’’ and inserting ‘‘meets anticipated future air’’; and

(B) by striking ‘‘beyond those currently included in the Federal Aviation Administration’s operational evolution plan’’;

(2) at the end of paragraph (3) by striking ‘‘and’’;

(3) at the end of paragraph (4) by striking the period and inserting ‘‘; and’’; and

(4) by adding at the end the following:

‘‘(5) a multiagency integrated work plan for the Next Generation Air Transportation System that includes—

‘‘(A) an outline of the activities required to achieve the end-state architecture, as expressed in the concept of operations and enterprise architecture documents, that identifies each Federal agency or other entity responsible for each activity in the outline;

‘‘(B) details on a year-by-year basis of specific accomplishments, activities, research requirements, rulemakings, policy decisions, and other milestones of progress for each Federal agency or entity conducting activities relating to the Next Generation Air Transportation System;

‘‘(C) for each element of the Next Generation Air Transportation System, an outline, on a year-by-year basis, of what is to be accomplished in that year toward meeting the Next Generation Air Transportation System’s end-state architecture, as expressed in the concept of operations and enterprise architecture documents, as well as identifying each Federal agency or other entity that will be responsible for each component of any research, development, or implementation program;

‘‘(D) an estimate of all necessary expenditures on a year-by-year basis, including a statement of each Federal agency or entity’s responsibility for costs and available resources, for each stage of development from the basic research stage through the demonstration and implementation phase;

‘‘(E) a clear explanation of how each step in the development of the Next Generation Air Transportation System will lead to the following step and of the implications of not successfully completing a step in the time period described in the integrated work plan;

‘‘(F) a transition plan for the implementation of the Next Generation Air Transportation System that includes date-specific milestones for the implementation of new capabilities into the national airspace system;
‘‘(G) date-specific timetables for meeting the environmental goals identified in subsection (a)(3)(I); and
‘‘(H) a description of potentially significant operational or workforce changes resulting from deployment of the Next Generation Air Transportation System.’’.

(c) NextGen Implementation Plan.—Section 709(d) of such Act (117 Stat. 2584) is amended to read as follows:

‘‘(d) NextGen Implementation Plan.—The Administrator shall develop and publish annually the document known as the NextGen Implementation Plan, or any successor document, that provides a detailed description of how the agency is implementing the Next Generation Air Transportation System.’’.

(d) Contingency Planning.—The Associate Administrator for Next Generation Air Transportation System Planning, Development, and Interagency Coordination shall, as part of the design of the System, develop contingency plans for dealing with the degradation of the System in the event of a natural disaster, major equipment failure, or act of terrorism.

Title III—Safety

Subtitle B—Unmanned Aircraft Systems

Sec. 332 Integration of Civil Unmanned Aircraft Systems into National Airspace System

(a) Required Planning for Integration—

(1) Comprehensive Plan—Not later than 270 days after the date of enactment of this Act, the Secretary of Transportation, in consultation with representatives of the aviation industry, Federal agencies that employ unmanned air craft systems technology in the national airspace system, and the unmanned aircraft systems industry, shall develop a comprehensive plan to safely accelerate the integration of civil unmanned aircraft systems into the national airspace system.

(2) Contents of Plan—The plan required under paragraph (1) shall contain, at a minimum, recommendations or projections on—

(A) the rulemaking to be conducted under subsection (b), with specific recommendations on how the rulemaking will—

(i) define the acceptable standards for operation and certification of civil unmanned aircraft systems;

(ii) ensure that any civil unmanned aircraft system includes a sense and avoid capability; and

(iii) establish standards and requirements for the operator and pilot of a civil unmanned aircraft system, including standards and requirements for registration and licensing;

(B) the best methods to enhance the technologies and subsystems necessary to achieve the safe and routine operation of civil unmanned aircraft systems in the national airspace system;

(C) a phased-in approach to the integration of civil unmanned aircraft systems into the national airspace system;

(D) a timeline for the phased-in approach described under subparagraph (C);

(E) creation of a safe

(F) airspace designation for cooperative manned and unmanned flight operations in the national airspace system;

(G) establishment of a process to develop certification, flight standards, and air traffic requirements for civil unmanned aircraft systems at test ranges where such systems are subject to testing;

(H) the best methods to ensure the safe operation of civil unmanned aircraft systems and public unmanned aircraft systems simultaneously in the national airspace system; and

(I) incorporation of the plan into the annual NextGen Implementation Plan document (or any successor document) of the Federal Aviation Administration.

(3) Deadline.—The plan required under paragraph (1) shall provide for the safe integration of civil unmanned aircraft systems into the national airspace system as soon as practicable, but not later than September 30, 2015.

(4) Report to Congress.—Not later than 1 year after the date of enactment of this Act, the Secretary shall submit to Congress a copy of the plan required under paragraph (1).

(5) Roadmap.—Not later than 1 year after the date of enactment of this Act, the Secretary shall approve and make available in print and on the Administration's Internet Web site a 5-year roadmap for the introduction of civil unmanned aircraft systems into the national airspace system, as coordinated by the Unmanned Aircraft Program Office of the Administration. The Secretary shall update the roadmap annually.

(b) Rulemaking.—Not later than 18 months after the date on which the plan required under subsection (a)(1) is submitted to Congress under subsection (a)(4), the Secretary shall publish in the Federal Register—

(1) a final rule on small unmanned aircraft systems that will allow for civil operation of such systems in the national airspace system, to the extent the systems do not meet the requirements for expedited operational authorization under section 333 of this Act;

(2) a notice of proposed rulemaking to implement the recommendations of the plan required under subsection (a)(1), with the final rule to be published not later than 16 months after the date of publication of the notice; and

(3) an update to the Administration's most recent policy statement on unmanned aircraft systems, contained in Docket No. FAA–2006–25714.

(c) Pilot Projects—

Establishment—Not later than 180 days after the date of enactment of this Act, the Administrator shall establish a program to integrate unmanned aircraft systems into national airspace system at 6 test ranges. The program shall terminate 5 years after the date of enactment of this Act.

(2) Program Requirements—In establishing the program under paragraph (1), the Administrator shall—

(A) safely designate airspace for integrated manned and unmanned flight operations in the national airspace system;

(B) develop certification standards and air traffic requirements for unmanned flight operations at test ranges;

(c) coordinate with and leverage the resources of the National Aeronautics and Space Administration and the Department of Defense;

(D) address both civil and public unmanned aircraft systems;

(E) ensure that the program is coordinated with the Next Generation Air Transportation System; and

(F) provide for verification of the safety of unmanned aircraft systems and related navigation procedures before integration into the national airspace system.

(3) Test Range Locations—In determining the location of the 6 test ranges of the program under paragraph (1), the Administrator shall—

(A) take into consideration geographic and climatic diversity;

(B) take into consideration the location of ground infrastructure and research needs; and

(c) consult with the National Aeronautics and Space Administration and the Department of Defense.

(4) Test Range Operation.—A project at a test range shall be operational not later than 180 days after the date on which the project is established.

(5) Report to Congress.—

(A) In General.—Not later than 90 days after the date of the termination of the program under paragraph (1), the Administrator shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Transportation and Infrastructure and the Committee on Science, Space, and Technology of the House of Representatives a report setting forth the Administrator's findings and conclusions concerning the projects.

(B) Additional Contents—The report under subparagraph (A) shall include a description and assessment of the progress being made in establishing special use airspace to fill the immediate need of the Department of Defense—

(i) to develop detection techniques for small unmanned aircraft systems; and

(ii) to validate the sense and avoid capability and operation of unmanned aircraft systems.

(d) Expanding Use of Unmanned Aircraft Systems in Arctic.—

(1) In General.—Not later than 180 days after the date of enactment of this Act, the Secretary shall develop a plan and initiate a process to work with relevant Federal agencies and national and international communities to designate permanent areas in the Arctic where small unmanned aircraft may operate 24 hours per day for research and commercial purposes. The plan for operations in these permanent areas shall include the development of processes to facilitate the safe operation of unmanned aircraft beyond line of sight. Such areas shall enable over-water flights from the surface to at least 2,000 feet in altitude, with ingress and egress routes from selected coastal launch sites.

(2) AGREEMENTS.—To implement the plan under paragraph (1), the Secretary may enter into an agreement with relevant national and international communities.

(3) AIRCRAFT APPROVAL.—Not later than 1 year after the entry into force of an agreement necessary to effectuate the purposes of this subsection, the Secretary shall work with relevant national and international communities to establish and implement a process, or may apply an applicable process already established, for approving the use of unmanned aircraft in the designated permanent areas in the Arctic without regard to whether an unmanned aircraft is used as a public aircraft, a civil aircraft, or a model aircraft.

Title VIII-Miscellaneous

Sec. 827 Commercial Space Launch License Requirement

Section 50905(c)(3) of title 51, United States Code, is amended by striking "Beginning 8 years after the date of enactment of the Commercial Space Launch Amendments Act of 2004," and inserting "Beginning on October 1, 2015,".

Joint Statement of Managers on Commercial Space Launch License Requirement

House bill modified to prohibit proposing regulations until October 1, 2015. Nothing in this provision is intended to prohibit the FAA and industry stakeholders from entering into discussions intended to prepare the FAA for its role in appropriately regulating the commercial space flight industry when this provision expires.

Title IX—Federal Aviation Research and Development

Sec. 909 Interagency Research on Aviation and the Environment

(a) In General—Using amounts made available under section 48102(a) of title 49, United States Code, the Administrator, in coordination with NASA and after consultation with other relevant agencies, may maintain a research program to assess the potential effect of aviation activities on the environment and, if warranted, to evaluate approaches to address any such effect.

(b) Research Plan—

(1) In General—The Administrator, in coordination with NASA and after consultation with other relevant agencies, shall jointly develop a plan to carry out the research under subsection (a).

(2) Contents—The plan shall contain an inventory of current interagency research being undertaken in this area, future research objectives, proposed tasks, milestones, and a 5-year budgetary profile.

(3) Requirements.—The plan—

(A) shall be completed not later than 1 year after the date of enactment of this Act;

(B) shall be submitted to Congress for review; and

(C) shall be updated, as appropriate, every 3 years after the initial submission.

Sec. 910 Aviation Fuel Research and Development Program

(a) In General—Using amounts made available under section 48102(a) of title 49, United States Code, the Administrator, in coordination with the Administrator of NASA, shall continue research and development activities into qualification of an unleaded aviation fuel and safe transition to this fuel for the fleet of piston engine aircraft.

(b) Requirements.—In carrying out the program under subsection (a), the Administrator shall, at a minimum—

(1) not later than 120 days after the date of enactment of this Act, develop a research and development plan containing the specific research and development objectives, including consideration of aviation safety, technical feasibility, and other relevant factors, and the anticipated timetable for achieving the objectives;

(2) assess the methods and processes by which the FAA and industry may expeditiously certify and approve new aircraft and recertify existing aircraft with respect to unleaded aviation fuel;

(3) assess technologies that modify existing piston engine aircraft to enable safe operation of the aircraft using unleaded aviation fuel and determine the resources necessary to certify those technologies; and

(4) develop recommendations for appropriate policies and guidelines to facilitate a transition to unleaded aviation fuel for piston engine aircraft.

(c) Collaboration.—In carrying out the program under subsection (a), the Administrator shall collaborate with—

(1) industry groups representing aviation consumers, manufacturers, and fuel producers and distributors; and

(2) other appropriate Federal agencies.

(d) Report.—Not later than 270 days after the date of enactment of this Act, the Administrator shall provide to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report on the plan, information obtained, and policies and guidelines developed pursuant to subsection (b).

Sec. 911 Research Program on Alternative Jet Fuel Technology for Civil Aircraft

(a) In General—Using amounts made available under section 48102(a) of title 49, United States Code, the Administrator shall establish a research program to assist in the development and qualification of jet

fuel from alternative sources (such as natural gas, biomass, ethanol, butanol, and hydrogen) and other renewable sources.

(b) Authority to Make Grants.—The Administrator shall carry out the program through the use of grants or other measures authorized under section 106(l)(6) of such title, including reimbursable agreements with other Federal agencies.

(c) Participation in the Program.—

(1) Participation of Educational and Research Institutions.—In carrying out the program, the Administrator shall include participation by—

(A) educational and research institutions that have existing facilities and leverage private sector partnerships; and

(B) consortia with experience across the supply chain, including with research, feedstock development and production, small-scale development, testing, and technology evaluation related to the creation, processing, production, and transportation of alternative aviation fuel.

(2) Use of NASA Facilities.—In carrying out the program, the Administrator shall consider utilizing the existing capacity in aeronautics research at Langley Research Center, Glenn Research Center, and other appropriate facilities of NASA.

(d) Designation of Institution as a Center of Excellence.—

(1) IN GENERAL.—Not later than 180 days after the date of enactment of this Act, the Administrator may designate an institution described in subsection (c)(1)(A) as a Center of Excellence for Alternative Jet-Fuel Research in Civil Aircraft.

(2) EFFECT OF DESIGNATION.—The center designated under paragraph (1) shall become, upon its designation—

(A) a member of the Consortium for Continuous Low Energy, Emissions, and Noise of the FAA; and

(B) part of a Joint Center of Excellence with the Partnership for Air Transportation Noise and Emission Reduction FAA Center of Excellence.

Sec. 912 Review of FAA's Energy-Related and Environment-Related Research Programs

(a) Review.—Using amounts made available under section 48102(a) of title 49, United States Code, the Administrator shall enter into an arrangement for an independent external review of FAA energy-related and environment-related research programs. The review shall assess whether—

(1) the programs have well-defined, prioritized, and appropriate research objectives;

(2) the programs are properly coordinated with the energy related and environment-related research programs at NASA, NOAA, and other relevant agencies;

(3) the programs have allocated appropriate resources to each of the research objectives; and

(4) there exist suitable mechanisms for transitioning the research results into the FAA's operational technologies and procedures and certification activities.

(b) Report.—Not later than 18 months after the date of enactment of this Act, the Administrator shall submit a report to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate containing the results of the review.

Sec. 913 Review of FAA's Aviation Safety-Related Research Programs

(a) Review.—Using amounts made available under section 48102(a) of title 49, United States Code, the Administrator shall enter into an arrangement for an independent external review of the FAA's aviation safety-related research programs. The review shall assess whether—

(1) the programs have well-defined, prioritized, and appropriate research objectives;

(2) the programs are properly coordinated with the safety research programs of NASA and other relevant Federal agencies;
(3) the programs have allocated appropriate resources to each of the research objectives;
(4) the programs should include a determination about whether a survey of participants across the air transportation system is an appropriate way to study safety risks within such system; and
(5) there exist suitable mechanisms for transitioning the research results from the programs into the FAA's operational technologies and procedures and certification activities in a timely manner.

(b) Aviation Safety-Related Research Programs to be Assessed.—
The FAA aviation safety-related research programs to be assessed under the review shall include, at a minimum, the following:

(1) Air traffic control/technical operations human factors.
(2) Runway incursion reduction.
(3) Flightdeck/maintenance system integration human factors.
(4) Airports technology research—safety.
(5) Airport Cooperative Research Program— safety.
(6) Weather Program.
(7) Atmospheric hazards/digital system safety.
(8) Fire research and safety.
(9) Propulsion and fuel systems.
(10) Advanced materials/structural safety.
(11) Aging aircraft.
(12) Aircraft catastrophic failure prevention research.
(13) Aeromedical research.
(14) Aviation safety risk analysis.
(15) Unmanned aircraft systems research.

(c) Report.—Not later than 14 months after the date of enactment of this Act, the Administrator shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report on the results of the review.

Sec. 915 Wake Turbulence, Volcanic Ash, and Weather Research

Not later than 60 days after the date of enactment of this Act, the Administrator shall—

(1) initiate an evaluation of proposals related to research on the nature of wake vortexes that would increase national airspace system capacity by reducing existing spacing requirements between aircraft of all sizes;
(2) begin implementation of a system to improve volcanic ash avoidance options for aircraft, including the development of a volcanic ash warning and notification system for aviation; and
(3) coordinate with NOAA, NASA, and other appropriate Federal agencies to conduct research to reduce the hazards presented to commercial aviation related to—
    (A) ground de-icing and anti-icing, ice pellets, and freezing drizzle;
    (B) oceanic weather, including convective weather;
    (C) en route turbulence prediction and detection; and
    (D) all hazards during oceanic operations, where commercial traffic is high and only rudimentary satellite sensing is available.

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