U.S. Department
of Transportation
**Federal Aviation
Administration**

Office of the Administrator

800 Independence Ave., S.W.
Washington, DC 20591

January 26, 2021

The Honorable Roger Wicker
Chairman, Committee on Commerce, Science,
and Transportation
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

I am pleased to provide you with the Federal Aviation Administration (FAA) report to Congress directed by Section 325 of the FAA Reauthorization Act of 2018 (Public Law 115-254). Section 325(a) directs the FAA to submit a report to Congress regarding part 121 airline safety oversight. This report is the FAA's first submission under Section 325 of the Act and it includes:

- A description of the FAA's primary safety oversight process, known as the Safety Assurance System, which is used to ensure the safety of the traveling public;
- A description of how risk-based oversight methods, such as the Interim Certificate Holder Priority Index and the Service Difficulty Reporting, are applied to ensure aviation safety; and
- Information on how Part 121 air carriers are monitored and subjected to recurrent reviews based on the performance of their safety programs.

Additionally, the reporting requirement under Section 315 of the FAA Modernization and Reform Act of 2012 (Public Law 112-95), which required the FAA annually to submit a report on the Flight Standards Evaluation Program (FSEP), falls within and is subsumed by this report meeting the Section 325 mandate under the FAA Reauthorization Act of 2018. The content previously reported under the FSEP will from now on be satisfied through this report.

We sent identical letters to Chairman DeFazio, Ranking Member Cantwell, and Ranking Member Graves.

Sincerely,

Steve Dickson
Administrator

Enclosure

U.S. Department
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**Federal Aviation
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Office of the Administrator

800 Independence Ave., S.W.
Washington, DC 20591

January 26, 2021

The Honorable Peter A. DeFazio
Chairman, Committee on Transportation and
Infrastructure
House of Representatives
Washington, DC 20515

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January 26, 2021

The Honorable Maria Cantwell
Ranking Member, Committee on Commerce,
Science, and Transportation
United States Senate
Washington, DC 20510

Dear Ranking Member Cantwell:

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**Federal Aviation
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Office of the Administrator

800 Independence Ave., S.W.
Washington, DC 20591

January 26, 2021

The Honorable Sam Graves
Ranking Member, Committee on Transportation
and Infrastructure
House of Representatives
Washington, DC 20515

Dear Ranking Member Graves:

I am pleased to provide you with the Federal Aviation Administration (FAA) report to Congress directed by Section 325 of the FAA Reauthorization Act of 2018 (Public Law 115-254). Section 325(a) directs the FAA to submit a report to Congress regarding part 121 airline safety oversight. This report is the FAA's first submission under Section 325 of the Act and it includes:

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Enclosure

FAA
Aviation Safety

REPORT TO CONGRESS:

Safety Incident Report

First Annual Submission

FAA Reauthorization Act of 2018 (Pub. L. No. 115-254) – Section 325

Executive Summary

This is the first report of the Federal Aviation Administration (FAA) under Section 325 of the FAA Reauthorization Act of 2018 (Public Law 115-254, or the Act), covering the period from October 1, 2018 – September 30, 2019. This report describes the FAA's primary safety oversight process, known as the Safety Assurance System (SAS), which is used to ensure the safety of the traveling public. SAS applies official policy by delivering safety controls through regulations and practical applications to businesses and individuals who are subject to FAA regulations.

This report also includes detailed information on how the FAA is utilizing risk-based decision-making (RBDM) to build on current safety management principles and proactively address emerging safety risks. RBDM requires tools to data mine all facets of information available. Tools mentioned in this report include the Interim Certificate Holder Priority Index (ICPI), Service Difficulty Reporting (SDR), Emergency Operations Network (EON), the Voluntary Disclosure Reporting Program (VDRP), the Program Tracking and Reporting Subsystem (PTRS), Pilot Deviation (PD) data, Enforcement and Compliance Actions, and the Quality Management System (QMS). These tools provide a comprehensive data package that covers various aspects of 14 Code of Federal Regulation (CFR) part 121 airline safety oversight, such as:

- Monitoring organizational trends and maintenance issues.
- Tracking accidents and incidents in near real time.
- Supporting voluntary reporting.
- Identifying the need of additional inspection items covered by regulations.

FAA aviation safety inspectors monitor part 121 air carriers on a continuous basis. Each air carrier is subject to recurrent reviews on the performance of their safety programs. During the period covered in this report, the FAA did not have instances where it needed to conduct advanced reviews.

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Introduction

This fiscal year (FY) 2019 report is submitted pursuant to Section 325 of the FAA Reauthorization Act of 2018 (Public Law 115-254 or The Act). Section 325 requires the FAA annually to submit to Congress a report regarding 14 CFR part 121 airline safety oversight.

Legislative Mandate

Section 325 of the Act requires:

(a) IN GENERAL.—Not later than 1 year after the date of enactment of this Act, and annually thereafter for 5 years, the Administrator, shall submit to the appropriate committees of Congress a report regarding part 121 airline safety oversight.

(b) CONTENTS.—The annual report shall include—

> *(1) a description of the Federal Aviation Administration's safety oversight process to ensure the safety of the traveling public;*
> *2) a description of risk-based oversight methods applied to ensure aviation safety, including to specific issues addressed in the year preceding the report that in the determination of the Administrator address safety risk; and*
> *3) in the instance of specific reviews of air carrier performance to safety regulations, a description of cases where the timelines for recurrent reviews are advanced.*

The contents of this report meet the requirements of Section 325. Additionally, the reporting requirement under Section 315 of the FAA Modernization and Reform Act of 2012 (Public Law 112-95), which required the FAA annually to submit a report on the Flight Standards Evaluation Program (FSEP), falls within and is subsumed by this report meeting the Section 325 mandate under the FAA Reauthorization Act of 2018. The content previously reported under the FSEP will from now on be satisfied through this report.

Safety Oversight Process

The FAA's primary oversight system is the Safety Assurance System (SAS). SAS is an oversight tool used to perform certification, surveillance, and continued operational safety for all commercial operations. SAS includes policy, processes, and associated software that aids the Agency in resource and oversight planning. SAS is not a separate safety standard and does not impose additional requirements on certificate holders.

The FAA implemented SAS to standardize the oversight of certificate holders or applicants under 14 CFR parts 121, 135, and 145. SAS is based on system safety principles, safety attributes, and risk management to identify hazards and prevent loss of life, equipment, and other property. The design of SAS is based on the following three roles:

1. **Initial Certification -** The role of Initial Certification is to assess whether applicants can conduct business in compliance with the applicable regulations.

2. **Continued Operational Safety (COS)** - The role of COS includes the functions of routine surveillance and certificate management. The purpose of this function is to assess a certificate holder's ongoing compliance with regulatory standards and management of risk.
3. **Assurance Support** - The role of Assurance Support is to keep the SAS program current and complete, which includes maintaining Data Collection Tools (DCT), automation version control, and feedback.

Air carriers have a statutory duty to provide service with the highest degree of safety in the public interest. SAS is a means by which the FAA ensures that air carriers fulfill that duty. SAS supports the implementation of official policy designed to ensure that air carriers, other business organizations, and individuals comply with regulations and other safety controls that apply to them.

The FAA uses SAS in meeting five primary responsibilities to ensure safety of the traveling public.

1. Verify an applicant can operate safely and comply with the regulations and standards before issuing a certificate and approving or accepting programs.
2. Conduct periodic reviews to verify that a certificate holder continues to meet regulatory requirements when the environment changes.
3. Validate the performance of a certificate holder's approved and accepted programs for the purpose of COS.
4. Identify regulatory noncompliance or safety issues and correct them as effectively, quickly, and efficiently as possible.
5. Use the most effective means to return an individual or entity that holds an FAA certificate, approval, authorization, or license to full compliance and to prevent recurrence.

These responsibilities, as well as information on policy, concepts, principles, and more, are outlined in 8900.1, Volume 10 of the Flight Standards Information Management System.[1]

Risk-Based Oversight Methods

The FAA has adopted several strategic goals under Risk-Based Decision-Making (RBDM) to ensure safety in the National Aerospace System (NAS). [2] These goals build on current safety management principles and proactively address emerging safety risks. FAA is taking advantage of the growing availability of safety data and the development of powerful analytical tools that will integrate safety risk into decision-making processes. Specifically, the FAA is developing policies, procedures, and systems to collect safety-related data in a consistent way across the Agency and throughout the aerospace industry. Additionally, the FAA is leveraging the industry's use of safety management principles and exchanging safety management lessons learned and best practices using this data to make informed, proactive safety decisions based on identified risks. The FAA will continue to evolve the oversight model to target resources to the highest level of risk, improve

[1] Flight Standards Information Management System- Volume 10: Safety Assurance System Policy and Procedure, Chapter 1: https://fsims.faa.gov/PICResults.aspx?mode=EBookContents&restricttocategory=all~menu

[2] FAA Strategic Plan, FY 2019-2022: https://www.faa.gov/about/plans_reports/media/FAA_Strategic_Plan_Final_FY2019-2022.pdf

standardization and data access, and incorporate risk model interoperability to enhance decision-making across the Agency.

Integrated Oversight Philosophy

The FAA Integrated Oversight Philosophy (IOP) identifies principles for evolving the safety oversight systems, to better position the FAA to meet the challenges of a rapidly evolving U.S. aerospace system. The policy supports RBDM by leveraging the use of consistent, data-informed approaches to enable the FAA to make smarter, system-level, risk-based decisions. RBDM emphasizes the review of safety data to integrate risk into decision-making processes and enable informed decision making by oversight personnel.

IOP applies to the safety oversight programs of all FAA organizations, which have regulatory oversight responsibilities. The policy embraces many interdependent principles including; RBDM, Safety Management Systems, the FAA Compliance Program, and voluntary safety reporting programs. The FAA recognizes safety oversight programs are an integral part of the safety culture. Evolving those programs and the FAA's oversight model supports the movement toward a safety management framework that collectively helps to define the safety culture.

Addressing Safety Risk with RBDM

In January 2019, the FAA launched a new safety performance and risk factor analysis model known as the Interim Certificate Holder Priority Index (ICPI). The ICPI is a methodology that evaluates certificate holder safety performance and risk factors to help prioritize part 121, 135, and 145 certificate holders for oversight planning and resource allocation purposes.

The FAA created a centralized site, with more than 1,000 reports and analytical products, to serve as a "one-stop-shop" resource to assist stakeholders with information needed to support RBDM and certificate oversight efforts. The FAA Flight Standards (FS) analytical community provides in-depth analytical products upon request to stakeholders across the Agency. To date, information systems and categories analyzed have included SAS, SDR, EON, VDRP, PTRS, PD data, Enforcement and Compliance Actions, and QMS data.

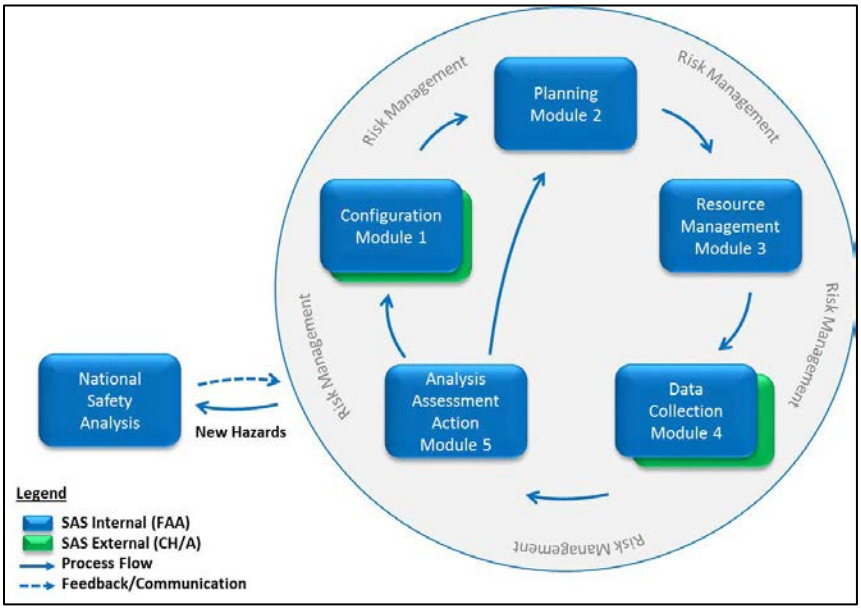
Certificate Holder Evaluation Process (CHEP)

The CHEP provides FS with standard policies and procedures to evaluate part 121, 135, and 145 certificate holders. The CHEP is conducted in accordance with FAA Order 8900.1, and is administered through the Certification and Evaluation Program Office (CEPO) of the Safety Analysis and Program Division. The CHEP provides an in-depth look at the certificate holder's systems and has three primary goals:

1. Verify that the certificate holder's systems and sub-systems comply with applicable regulations.
2. Evaluate whether the certificate holder is operating at the highest possible degree of safety in the public interest in accordance with 49 USC § 44702.
3. Identify hazards and mitigate associated risks.

Using the SAS Oversight Model, presented in figure 1**,** the National CHEP Team validates regulatory compliance and records the results in the SAS database. Analysis and assessment results are based on the data collected and recorded in Module 5, Assessment Determination. The Certificate Management Team (CMT) in Module 5 initiates any action relative to the certificate holder by adding actions in the Action Item Tracking Tool.

Figure 1: SAS Oversight Model



The FAA selects certificate holders for evaluation approximately 12 months after initial certification through a random selection process with a plan for each certificate holder to be evaluated at least once every 5 years. Depending on available resources, the FAA selects an average of three certificate holders per quarter for evaluation, and may include one large certificate holder (55 or more aircraft), one medium certificate holder (26–54 aircraft), and one small certificate holder (25 or fewer aircraft), or combination thereof.

Occasionally, in accordance with RBDM, the National CHEP team may modify the review schedule to evaluate higher risk certificate holders. The Safety Analysis and Promotion Division's Certification and Evaluation Program Office (CEPO) reviews various databases when scheduling evaluations for National CHEPs. The databases reviewed by CEPO include facts concerning accidents and incidents, enforcement activities, pilot deviations, past assessments, financial condition, and other information. This review may flag certificate holders deemed to be 'higher risk' and cause the National CHEP Team to alter their scheduling priority.

The National CHEP provides the FAA with the following:

- Consistent application of regulations/policy across all certificate-holding district offices.
- An independent evaluation of air carrier compliance.
- Standardization of the oversight process.

- Alerts for a system malfunction.
- Identification of inconsistencies in regulatory philosophies.
- Data on Element Design Assessment (EDA) and Element Performance Assessment (EPA) results that can be trended.

National CHEP Accomplishments

Eight teams of Aviation Safety Inspectors accomplish CHEP assessments. In FY 2019, the FAA conducted 11 CHEP assessments. Table 1 shows the number of EDA, EPA, and Safety Performance Analysis (SPA) elements and Custom Assessments that were evaluated in each CHEP in FY 2019.

Table 1: National CHEPs by Certificate Holder in FY 2019: Elements and Activities Evaluated[3]

Quarter	Operator	Operator Size	EDA Elements	EPA Elements	SPA Elements	Custom
Q1	Sky Lease I, Inc	S	3	17	0	7
	Southwest Airlines	L	11	26	0	1
	Tatonduk	S	4	20	0	4
Q2	Swift Air	S	2	22	0	2
Q3	21 Air	S	3	12	0	1
	ExpressJet	L	6	18	1	2
	Seaborne Virgin Island Inc	S	4	19	0	1
Q4	Atlas Air	L	6	25	0	4
	Northern Air Cargo	S	2	18	0	14
	Polar Air Cargo	L	2	21	0	8
	PSA Airlines	M	4	20	0	4
Total	**11 Operators**		**47**	**218**	**1**	**48**

During the second quarter of FY 2019, only one CHEP was conducted due to the amount of time required to accomplish the Southwest Airlines CHEP. Additionally, since an operator ceased operations during a scheduled CHEP, it was not included on the table. Due to ongoing certifications and staffing, the third CHEP that was scheduled for the second quarter, Alaska Airlines, was postponed after consulting with the Alaska Certificate Management Office.

National CHEP Results - Assessment Determination Options (ADO) Scores

An outcome of the SAS business process is the ADO score. The FAA uses SAS Analysis, Assessment and Action (AAA) procedures and tools to make a bottom-line assessment to

[3] Certificate Holder Size: [L = 55+ aircraft], [M = 26-54 aircraft], [S = 25 or fewer aircraft]

determine if the certificate holder's system design meets the standards for acceptance (for EDAs), and to determine if the certificate holder's system performs in a way that it controls hazards (for EPAs).

The SAS analysis and assessment contains the processes for deciding to approve, accept, or reject the performance or design of a certificate holder's or applicant's program. The process requires a review of Element Design DCT or Element Performance DCT. The CEPO assesses the package for the current EDA or EPA with historical data, as well as other data for the element. After assessing the SAS analysis package, the FAA determines whether the certificate holder's system design for that element meets the requirements for either continued approval or acceptance, or initial approval or acceptance.

For an EDA or EPA, once the bottom-line assessment is complete, the assessment is accepted or rejected and assigned a numerical ADO score from 1 to 4, as described in Table 2. The FAA conducts the planning of corrective actions under the standards of a SAS business module. Table 3 shows the ADO scores assigned in CHEP assessments in FY 2019.

Table 2: Assessment Determination Options Scores (FY2019)

ADO Score	Assessment Result		Action Required
1-Green	Performance or Design Affirmed	No issues or findings observed	No action required
2-Yellow	Performance or Design Affirmed	Minor, nonregulatory issues observed	Action required
3-Yellow	Performance or Design Affirmed	Nonsystematic regulatory issues observed	Action required
4-Red	Performance or Design Not Affirmed with Action Required	Regulatory and/or Systemic issues observed	Action required

Table 3: ADO Scores Assigned in FY 2019 CHEP Assessments[4]

ADO Score	Element Design Assessments		Element Performance Assessments	
	Number of Elements	Percent of EDAs	Number of Elements	Percent of EPAs
1-Green	9	19.15%	44	20.18%
2-Yellow	8	17.02%	44	20.18%
3-Yellow	19	40.43%	109	50.00%
4-Red	11	23.40%	21	9.64%
Total	**47**	**100.00%**	**218**	**100.00%**

ADO Score	Custom Assessments		System / Subsystem Assessments	
	Number of Elements	Percent of Customs	Number of Elements	Percent of Customs
1-Green	9	18.75%	0	0.00%
2-Yellow	8	16.67%	1	100.00%
3-Yellow	18	37.50%	0	0.00%
4-Red	13	27.08%	0	0.00%
Total	**48**	**100.00%**	**1**	**100.00%**

Actions Taken as a Result of CHEP Findings

The FAA addresses any CHEP element scored 2, 3, or 4 and ensures any associated risk is mitigated to an acceptable level. Listed below are some possible corrective actions taken, in general order of most serious to less serious:

- Initiation of Enforcement Investigative Report (EIR): An EIR may be initiated under FAA Order 2150.3C, FAA Compliance and Enforcement Program, if a certificate holder is conducting operations contrary to applicable FAA regulations. A legal enforcement action may result in a suspension or revocation of a certificate, or a civil penalty action, depending on the circumstances. There were five EIRs initiated as the result of the CHEPs conducted in FY 2019.
- Custom DCT: A Custom DCT allows data collection activities to be requested by principal inspectors to inspect and collect data on specific areas of immediate concern outside of the

[4] Figures on Table 3 are rounded to the nearest hundredth.

normal assessment schedule. There were 25 Custom DCTs created as a result of the CHEPs conducted in FY 2019.

- Planning of Additional EPA, EDA, or SPA (System/Subsystem Performance Assessment): Inspection activities not previously scheduled can be added to the CMT work plan to provide additional surveillance of particular areas of concern.
- Notification to Certificate Holder: Particular findings of the assessment process can be formally transmitted to the certificate holder.

The FAA continues to find CHEP assessments to be a valuable addition to the part 121 air carrier oversight program. The CHEP program provides additional technical expertise to identify issues that were difficult to recognize at the local office level, and provides information and training to managers and inspectors to increase their knowledge and skill set. The CHEP program provides senior FAA management with an additional oversight tool to identify regional and national trends.

Analytical Support Functions

The FS analytical community provides safety intelligence to support risk-based decisions, actions, priorities, and the assessment of system performance of the FAA. This also includes industry product and service providers for which FS has oversight responsibility. The FS analyst community's work provides the data necessary for making informed policy decisions that supports strategic and every-day decision-making functions.

Analytical support includes data reporting, data analysis, data modeling, and the development of automated data displays to improve RBDM. In addition, Safety Performance Analysis System (SPAS) is an application that provides FS inspectors, managers, and analysts access to more than two dozen safety databases, enabling stakeholders to evaluate data under routine, as well as recurring, scenarios and make informed decisions.

National Safety Analysis

The FAA established the National Safety Analysis (NSA), which is a module within SAS that gives Principal Inspectors (PIs)/Certification Project Managers the ability to identify and record a new hazard with the "Identify New Hazard" (Request NSA Support) option. An "Identify New Hazard" entry in the NSA module engages the analytical community and subject matter experts for a review of the new hazard. The NSA is a key foundational component of the SAS. As such, the NSA provides analytical support to identify new hazards or safety issues within the aviation community overseen by FS, assess adverse trends in safety performance, and evaluate the effectiveness of existing safety risk controls. The hazard may be associated with a systemic, or a potentially systemic system safety issue that may apply to multiple certificate holders.

SAS New Hazard Analysis and Risk Assessments

In accordance with processes established within SAS, analysts provide coordinated hazard analysis and risk assessment services to CMT PIs and other officials who identify a potential new hazard when conducting oversight. In FY 2018, the Analysis and Information Program Office (AIPO) reviewed approximately 360 suspected new hazards that were entered into the SAS

automation through the formal SAS NSA process. Since the inception of SAS, AIPO has reviewed over 780 hazards in the SAS database using the NSA function.

Two recent examples of NSA submissions reviewed include:

1. A concern regarding oversight of certificate holders with overseas operations that are not directly observed by the FAA.
2. Discrepancies noted between areas of guidance.

Interim Certificate Holder Priority Index (ICPI)

As noted above, FS completed the development of a new safety performance and risk factor analysis methodology known as the ICPI. The ICPI methodology analyzes certificate holder safety performance levels and risk factors for oversight planning and resource allocation purposes. As of FY 2019, ICPI is being introduced in phases within the US Air Carrier and General Aviation community.

The ICPI provides a standardized, objective capability for evaluating and prioritizing part 121, 135, and 145 certificate holders based on their safety performance levels and risk factor exposure. It replaces the capabilities of the SPAS Trend Monitoring Index, Surveillance Priority Index, and Repair Station Analysis Model, which have become obsolete and unusable for certificate holder prioritization following the implementation of SAS. The ICPI evaluates data in four component subject areas:

- Safety Performance History (Accidents/Incidents/Occurrences/Pilot Deviations/Enforcements).
- Negative Surveillance (AAA Results in SAS).
- Certificate Holder Assessment Tool (CHAT) Risk Indicators (Risk indicators selected by PIs in SAS CHAT).
- “Uncertainty” (Lack of Recent Surveillance, Principal Inspector Changes, Age of Certificate).

The ICPI simulates the logical thought processes that an inspector, analyst, or other safety official would apply when evaluating certificate holder safety performance levels, surveillance results, and other risk factors to prioritize certificate holders for surveillance.

Safety Data and Analysis Team (SDAT)

The SDAT is a cross-Agency team that focuses on making data analysis across the FAA smarter and more efficient. A sub-team of the SDAT is working on the development of a Hazard Wiki Library for hazards that affect part 121 operations. The library is a searchable list of categorized hazards allowing for tracking and analysis of changes to system safety. The FAA draft Hazard Taxonomy is used as a means of organizing hazard types. Some of the current hazard types include: single engine failure; wake turbulence; wind shear and environmental turbulence; conflict of taxiway/apron; runway incursion; icing; loss of control in flight/inappropriate aircraft handling; flight crew incapacitation; and flight control system failure.

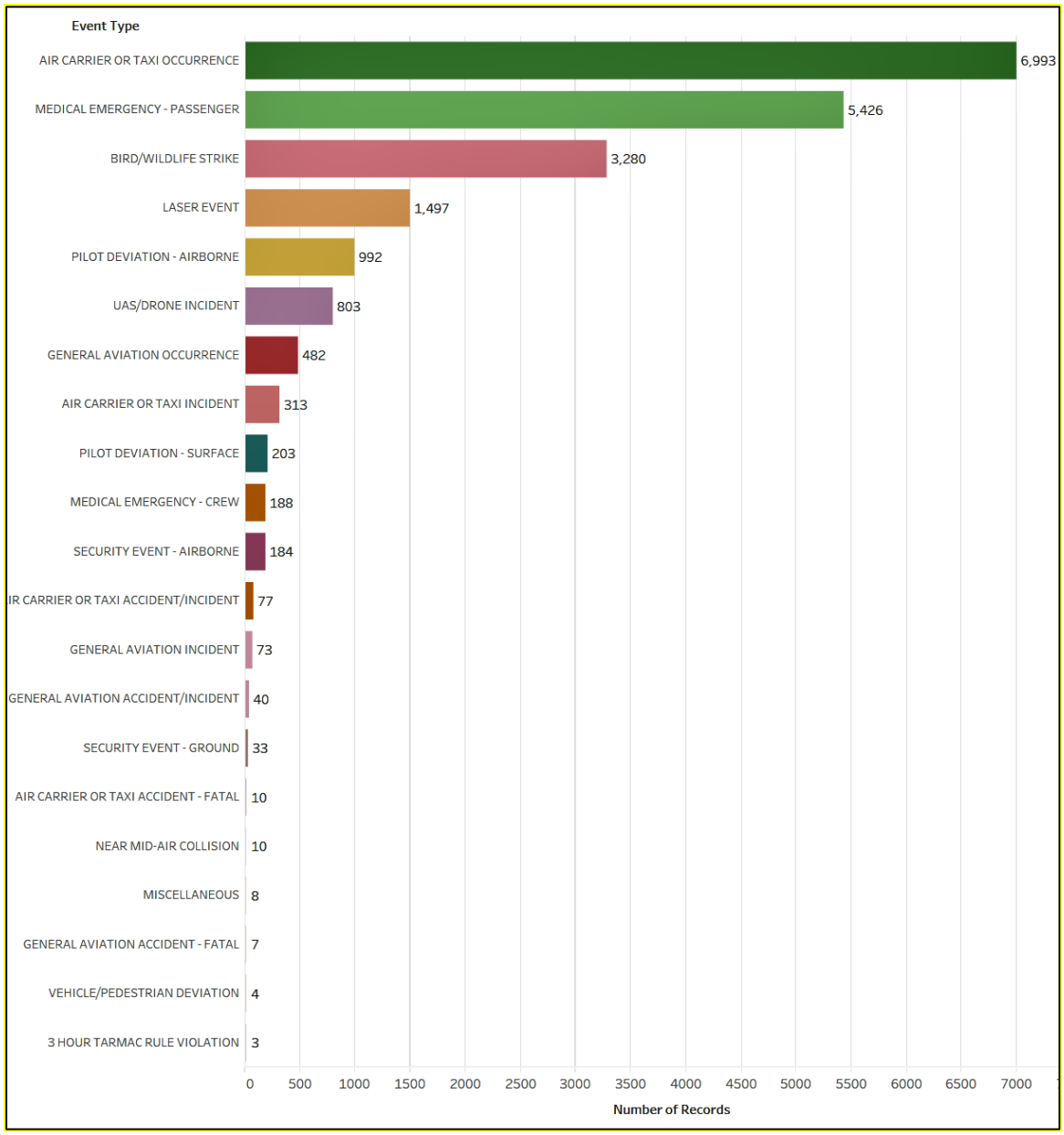
Continuous Monitoring and Trend Analysis of Operational Safety Events

There are approximately 3,200 aviation safety events reported each month to the FAA's Regional Operations Centers (ROCs). FS has initiated a proactive, continuous monitoring program, which reviews and analyzes operational safety events reported through the EON Daily Report Application on a regularly scheduled basis. This continuous monitoring and analysis program will provide early identification of emerging performance patterns, so that conditions causing an unsafe performance pattern can be identified and corrected.

An example is the FAA's efforts to reduce/mitigate Near Mid-Air Collisions (NMAC) between manned aircraft and unmanned aircraft. Reviews of the ROC daily reports flagged an increasing number of NMACs involving Unmanned Aircraft Systems (UAS) in the National Airspace in late FY 2017. The FAA assembled a team of analysts and inspectors to support UAS outreach efforts and to help identify specific problem areas. This team reviewed NMAC reports, aggregated remote pilot knowledge exam data, and other data sources to help identify additional remote pilot educational needs, and used that data to better tailor FAA surveillance of UAS activities.

Figure 2 provides information on the total number of EON events categorically. The events shown include only those events reported through the EON. Figure 2 does not provide a tally of all events that may have occurred in the NAS. This data is current as of September 30, 2019.

Figure 2: EONs Events for FY 2019



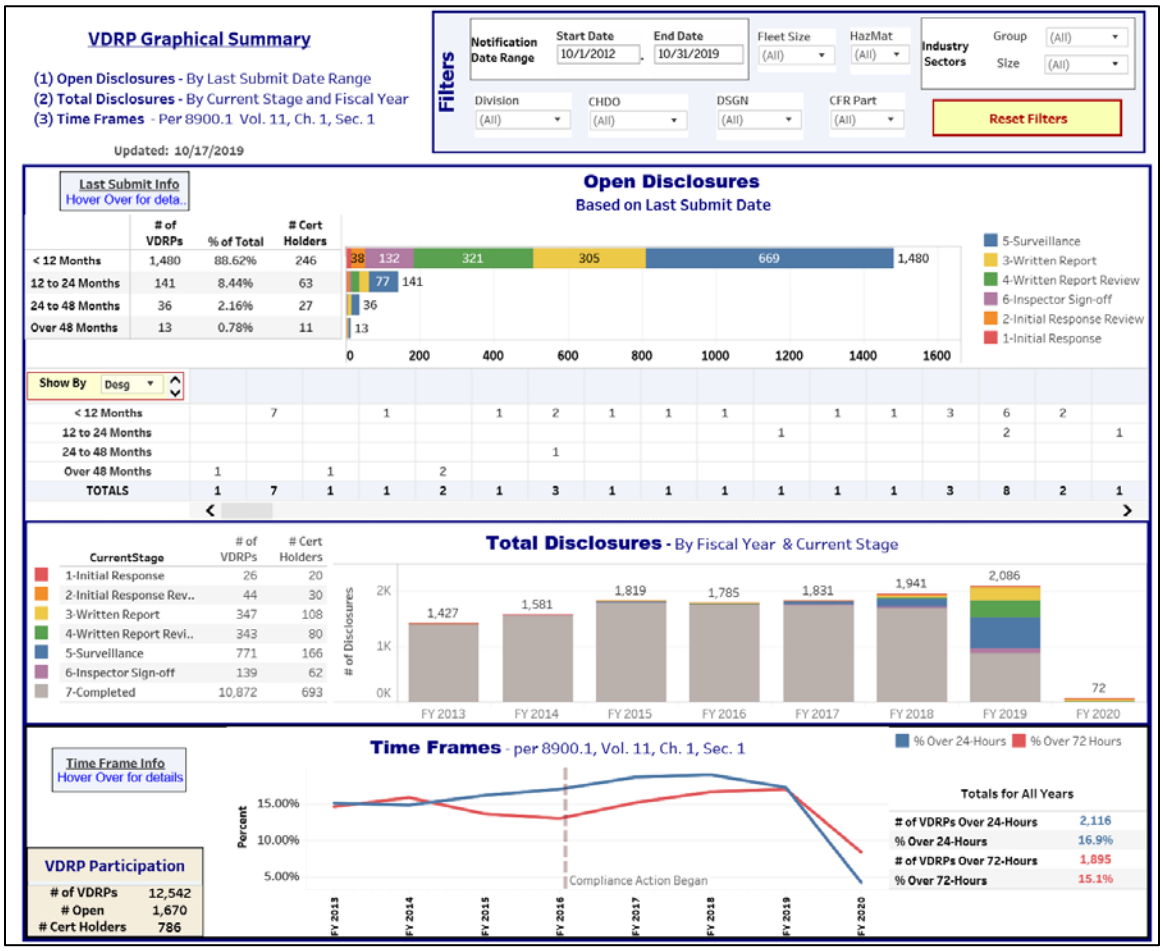
Monitoring of the Voluntary Disclosure Reporting Program (VDRP)

The primary purpose of the VDRP is to identify and correct issues of noncompliance and/or safety. Certificate holders are not required to participate in the VDRP, but FAA encourages participation to work together to identify hazards and mitigate risk. Initiation of VDRP is indicative of the participant's willingness to identify instances of regulatory noncompliance. In the case that regulatory noncompliance is identified, participants are expected to correct their own issues and develop long-term comprehensive fixes. Ultimately, the FAA intends this program to foster safe operating practices.

The FAA created a VDRP analysis tool to help analyze data at the national and CMT level. Figure 2 presents an example of the output of the VDRP analysis tool. The tool is used to:

- Provide FS users a standardized interactive method for analyzing VDRP.
- Better visualize and understand data patterns within VDRP.
- Support CMTs ability to include VDRP data in their oversight plan.

Figure 3: VDRP Graphical Summary



SAS Analysis, Assessment & Action (AAA) Summary & Monitor Report

SAS incorporates five business process modules for the initial certification and continued operational safety of certificate holders or applicants. PIs use the analysis and assessment process to make informed decisions about the certificate holder's operating system. Within the SAS AAA, the PIs are provided with numeric scoring options to capture a bottom-line assessment of the certificate holder's design and performance based on the data collected from DCTs and other available information.

FS has created two dashboards for each of the SAS Peer Groups that averages the AAA results across the certificate holders, peer groups, and other parameters. The dashboards allow decision-makers to quickly focus on deteriorating areas and determine if an action plan is required. Thus, the decision-makers or PIs can save available time and resources by closely examining surveillance records associated with the highest assessment scores. An example dashboard is presented in Figure 3.

Figure 4: SAS Peer Group Dashboard

AAA Summary Peer Group A (14 CFR Part 121)

mlf_label	mlf_name	Specialty	criticality	FY 2017	FY 2018	FY 2019	Grand Total
1.1.1	(AXH) HM Voluntary Reporting Pro..	AXH (HazMat)	H		1.00	1.00	1.00
	(OP/AW) Safety Management Syst..	Airworthiness	H		1.00		1.00
1.4.3	Manuals	Airworthiness		1.00			1.00
1.4.4	Quality Control System	Airworthiness		1.00			1.00
4.2.7	Air Carrier and Air Operator Requir..	Airworthiness	H	1.00			1.00
1.1.2	(OP) Safety Program (Ground and Flight)	Airworthiness	H	1.06	1.13	3.00	1.10
		Operations	H	1.05	1.09	1.42	1.07
3.2.2	(OP) Use of Approved Areas, Route..	Operations	M	1.00	1.21	1.03	1.10
3.2.3	(OP) Special Navigation Areas of O..	Operations	M	1.40	1.04	1.25	1.13
5.1.2	(OP) Flight Attendant Duty / Rest T..	Operations	M	1.18	1.30	1.08	1.14
3.3.5	(OP) Extended Operations (ETOPS)	Operations	H	1.00	1.17	1.13	1.14
2.3.1	(OP) Appropriate Operational Equi..	Operations	M	1.08	1.16	1.24	1.15
4.4.2	(AW) Mechanical Interruption Sum..	Airworthiness	L	1.16	1.17	1.00	1.17
1.2.1	(AXH) HM Manual Management	AXH (HazMat)	L		1.38	1.00	1.25
	(OP) Part 119 Required Personnel	Operations	L	1.00	1.00	1.20	1.16
3.2	Flight Operations Engineering	Operations	M	1.21	1.16	1.23	1.18
4.4.3	(AW) Short-term Escalations	Airworthiness	L	1.28	1.10	1.44	1.20
2.1.3	(OP) Simulators/Training Devices	Operations	M	1.10	1.23	1.19	1.21
2.2.3	(OP) Pilot Operating Limitations / R..	Operations	H	1.18	1.45	1.25	1.21
1.5.1	(OP/AW) Accountable Executive	Airworthiness			1.00	1.00	1.00
		Operations			1.00	2.00	1.50
2.3	Aircraft Equipment	Operations	M	1.21	1.15	1.39	1.23

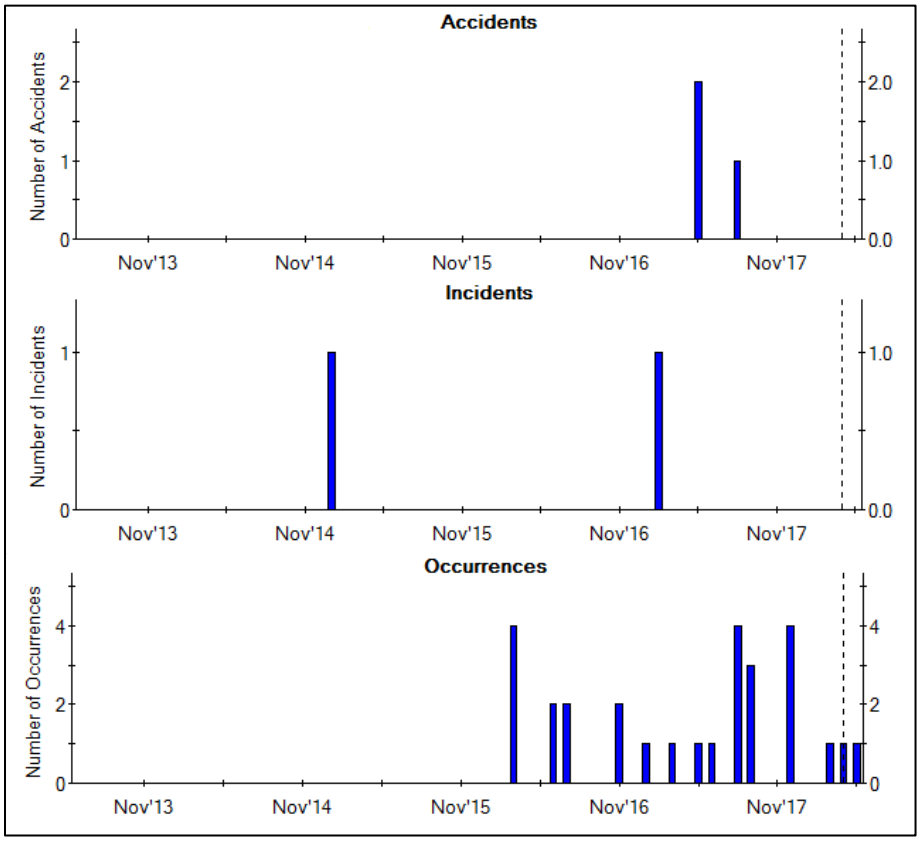
Reviews of Air Carrier Performance to Safety Regulations

FS compiled and analyzed selected sets of safety data from a number of FAA data sources for various certificate holders. The purpose of these analyses and the subsequent report is not to provide a comprehensive safety assessment of a particular certificate holder, but rather to provide information that may assist the CMT in working with the certificate holder to optimize their safety management practices.

These reports provide insight from an objective examination of the available data, to support the CMT's and the certificate holder's ongoing efforts to maximize the effectiveness of the certificate holder's safety programs at all levels of the operation. The report reviews information from the SAS, CHAT, SDR, EON, VDRP, and the National Program Tracking and Reporting Subsystem to provide a broad overview of safety performance.

Figure 5 shows an example of how a typical report on any particular air carrier is derived from the data. The FAA reviewed several data sources with very few obvious trends standing out, but an increase in events beginning in March 2016 and continuing to the present is a concern. The increase in event rate in the months prior to the accidents indicates that some areas of safety management may need to be examined more closely. Also noted is an overall lack of remarks detailing how the certificate holder was following up on each event, and whether the mitigation strategies put in place were performing as expected.

Figure 5: Example of Safety Performance Review Data Analysis



Support of New Programs

The FAA is continuously supporting the safe introduction of new technologies and programs as the NAS environment evolves. A recent example is the support for the Performance Based Contingency Fuel (PBCF) program. In accordance with the International Civil Aviation Organization standards and recommended practices, the PBCF program allows airlines to tailor the contingency fuel carried on their international flights based on their historical ability to accurately forecast flight fuel needs. This provides an alternative to the fixed contingency fuel value, which was applied to all Make/Model/Aircraft and international routes regardless of demonstrated fuel planning accuracy.

Conclusion

This report is the first annual report under Section 325 of the FAA Reauthorization Act of 2018. The FAA's safety oversight process, SAS, supports the implementation of official policy designed to ensure that air carriers, other business organizations, and individuals comply with regulations and other safety controls, thus ensuring the safety of the traveling public. The inception of SAS has provided a one-stop data-repository for all certificate management work. The SAS business processes drive to improve internal coordination between specialties and facilitate a greater awareness of risk. Since its launch, the workforce has become more familiar with the tools provided by SAS and more skilled in identifying risk associated with any certificate holder. Additionally, safety inspectors have become more adept at working with those certificate holders to mitigate identified risks. The FAA remains committed in developing programs and systems, which embrace increased sharing of safety data among FAA organizations, industry, and international partners to help us to better identify hazards relating to aviation and mitigate associated safety risk.

Acronyms

AAA- Analysis, Assessment & Action
ADO- Assessment Determination Options
CEPO- Certification and Evaluation Program Office
CFR- Code of Federal Regulation
CHAT- Certificate Holder Assessment Tool
CHEP- Certificate Holder Evaluation Process
CMT- Certificate Management Team
COS- Continued Operational Safety
DCT- Data Collection Tools
EDA- Element Design Assessment
EIR- Enforcement Investigative Report
EON- Emergency Operations Network
EPA- Element Performance Assessment
FAA- Federal Aviation Administration
FS- FAA Flight Standards Service
FSEP- Flight Standards Evaluation Program
ICPI- Interim Certificate Holder Priority Index
IOP- FAA Integrated Oversight Philosophy
NAS- National Aerospace System
NMAC- Near Mid-Air Collisions
NSA- National Safety Analysis
PBCF- Performance Based Contingency Fuel
PD- Pilot Deviation
PTRS- Program Tracking and Reporting Subsystem
QMS- Quality Management System
RBDM- Risk-Based Decision-Making
ROC- FAA's Regional Operations Centers
SAS- Safety Assurance System
SDR- Service Difficulty Reporting
SPA- Safety Performance Analysis
SPAS- Safety Performance Analysis System
UAS- Unmanned Aircraft Systems
VDRP- Voluntary Disclosure Reporting Program