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Yvette A. Rose
Chair
Aviation Rulemaking Advisory Committee
c/o Federal Aviation Administration
Office of Rulemaking

RE: Aviation Rulemaking Advisory Committee (ARAC)
Part 145 Working Group – Preliminary Report

Dear Madam Chair:

Please find attached the ARAC's Part 145 Working Group preliminary report for consideration during the December 2020 meeting. We are hopeful the ARAC will accept the document and provide it to the Federal Aviation Administration (FAA) for consideration.

The undersigned will be present during the December 2020 meeting to answer any questions from the Committee. In addition, we welcome any questions from the Committee prior to the scheduled meeting.

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Enclosure: Part 145 Working Group Preliminary Report

cc: Part 145 Working Group

Federal Aviation Administration
Aviation Rulemaking
Advisory Committee

Part 145 Working Group
Preliminary Report

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Executive Summary

The Federal Aviation Administration (FAA) tasked the Aviation Rulemaking Advisory Committee (ARAC) to provide recommendations regarding the agency's guidance on the certification and oversight of all part 145¹ repair stations. The ARAC accepted the task and the Part 145 Working Group was established to serve as staff to the ARAC and to provide preliminary and final reports with advice and recommendations on the assigned task for the ARAC's review.²

Task

The Part 145 Working Group's task required two significant steps. First, to investigate the relationship among and between part 145 regulations, internal and external guidance and policies to determine where each supports the other.

Second, where misalignments are found, make recommendations for improvements to ensure the internal and external guidance material is—

1. Aligned and compliant with the aviation safety regulations, other laws and executive orders reviewed in (1)(b).
2. Annotated to the applicable rule, other law, or executive order; and,
3. Consistently numbered to ensure a comprehensive relationship between the guidance document and the annotated rule, law, or executive order.
4. Developed to communicate the agency's expectations for compliance to the public and the FAA workforce in a comprehensive and consistent manner, and includes the tools necessary to ensure the application and evaluation of compliance supports performance-based oversight that takes into account the amount, type, scope and complexity of work performed and the certificate holder's size.

The preliminary report provides a detailed description of the Working Group's review and analysis of the assigned tasks and completion of its first step, which supports the finding and completion of the second step and the Final Report, due December 2021.

Summary of Work Performed

The Working Group has completed its review of the applicable statutes, regulations, and internal and external guidance and has determined there are significant misalignments. Its review has revealed several root causes that have allowed internal and external guidance to drift from the plain language and intent of the regulations.

The Working Group has initiated the second step that will complete its task with the requested recommendation(s).

Finding

The FAA's system for transforming regulations into guidance material for the public and its workforce does not consistently ensure alignment with the plain language and objectives of the myriad statutes and executive orders applicable to agency rulemaking, oversight and enforcement activities. Therefore, the compliance elements sought by the agency in internal and external guidance material are not based upon a reasonable interpretation of the standards established by law.

¹ All references are to 14 Code of Federal Regulations (CFR) unless otherwise noted.

² See, 83 FR [2715](#) (January 18, 2019) (announcing the formation of the working group and asking for members).

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Interim Recommendations

The Working Group requests that the ARAC consider making two interim recommendations to the agency.

First, the agency should use the plain language of the regulations applicable to part 145 applicants and certificate holders, the rules' history, including applicable information from the Civil Air Regulations (CAR) and Civil Aeronautics Manual (CAM) 52, the preambles to notices of proposed rulemaking and final rules, and legal opinions to develop training for its workforce and the industry. Training to the safety standards developed through the legislative and public rulemaking process would ensure the agency's safety management system evolution is realized through its employees' ability to assess potential non-compliance situations based upon the established requirements. If this effort is undertaken while the Working Group is finishing its work, basic information directly relevant to the final recommendations will be available simultaneously.

Second, the agency should immediately change the guidance to its workforce to allow deviations from its Flight Standards Information Management System (FSIMS), Order 8900.1 whenever an inspector and local office management determine the information (a) is contrary to the plain language of a regulation, or (b) is more restrictive than the plain language of the regulation. The current methodology for requesting deviations from FSIMS requires concurrence much further up the hierarchy.³

Conclusion

The Working Group will continue its task to provide recommendations for communicating the regulatory compliance requirements for repair stations in a comprehensive and consistent manner along with recommendations to adjust the Safety Assurance System (SAS) Data Collection Tools (DCTs). The recommendations in the final report will ensure the application and evaluation of compliance supports performance-based oversight that takes into account the amount, type, scope and complexity of work performed and the certificate holder's size.

³ Volume 1, Chapter 1, Section 1, paragraph 1-3 Standardization and Consistency.

Background

While external guidance documents issued by federal agencies may not have the force of law on the public, they are heavily relied upon. More important to the Working Group's task is the fact that internal agency guidance, i.e., orders and policy, must be followed by the federal employee. Suffice it to say, when guidance documents do not reflect the regulatory requirements, the outcome is an uneven and inconsistent application of legal standards. Further, if information in the internal and external guidance differ, conflicting "standards" emerge in day-to-day interactions.

Conscious that the oversight of repair stations,⁴ particularly those serving air carriers, is under constant international scrutiny, the agency recognized that it would benefit from an industry review of the alignment of the laws and regulations applicable to this portion of the maintenance industry. Therefore, in addition to making recommendations, the ARAC tasked its Working Group to first:

Perform a comprehensive review of internal and external guidance material, in relation to the current laws and regulations, that pertain to certifying and overseeing all part 145 repair stations. This review will include pertinent—

- (a) FAA Orders, Notices, Advisory Circulars, Job Aids and Safety Assurance System (SAS) Data Collection Tools.
- (b) Laws and executive orders, particularly those associated with inclusion of small business and Paperwork Reduction Act requirements in agency policy and guidance.

The Working Group held its first meeting on December 11-13, 2018. The FAA's Office of Rulemaking (ARM) provided a presentation on the role and expectations of the Working Group. The Working Group reviewed each element of the assigned task to ensure its discussions and work focused on its requirements so consensus could be reached. Members discussed the issues that they and their segment of the industry have with part 145, emphasizing the differences among and between the plain language of the regulations and local inspector preferences. These differences are exacerbated by incorrect, incomplete, conflicting or misdirected guidance.

The Working Group developed a matrix containing the regulations, background information, regulatory historical elements, legal opinions, and other information pertaining to issues experienced by members. The methodology of review enabled an analysis of the plain language of the regulation, guidance and the SAS DCT elements associated with compliance. The [Statutory Review](#) and [Regulatory and Guidance Material Review](#) sections of this report review these matters in detail.

The Director, Office of Safety Standards, Flight Standards Division provided management perspective of the task and expected outcomes. The FAA promised to keep an open mind with respect to the administration of its mandate through the SAS Portal.

During its second meeting on May 8-9, 2019, the working group received presentations from the Department of Transportation Office of Inspector General and the Government Accountability Office-Director of Civil Aviation Issues.

The Department of Transportation, Office of Inspector General (DOT-OIG), Assistant Inspector General for Aviation Audits, Matthew Hampton provided an overview of his office's audits of the FAA's oversight of air carrier contract maintenance. The Working Group members expressed their concern that failure of

⁴ Congressional mandate to "...establish and implement a safety assessment system for all part 145 repair stations based on the type, scope, and complexity of work being performed." Sec. 308 of the FAA Modernization Act of 2012 (PL [112-95](#)).

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the DOT-OIG to use the regulations as a standard for oversight of the FAA creates recommendations that cannot be accomplished within the FAA's authority. The OIG acknowledged that it could see where its recommendations may have added to industry's compliance expectations and it looked forward to the Working Group sharing its progress and report.

U.S. Government Accountability Office, Director of Civil Aviation Issues, Heather Krause provided an overview of her office's operations in general and a summary of the issues Congress has requested be audited that are of interest to the Working Group and its task. The Working Group exchanged information on the issues that may result from or would contribute to the GAO's work and were gratified to be provided an opportunity to educate the auditors when requested.

AFS-900⁵ Safety Analysis and Promotion Division representatives explained their office's role in the development of the SAS DCTs from the policy perspective. It became evident to the Working Group that communication among and between the policy, workforce and training divisions failed to provide up-to-date information on changes to regulations guidance, or legal opinions so that timely and appropriate amendments to DCTs and training could be processed and implemented.

During its third meeting on September 11-13, 2019, the working group was provided presentations by the Professional Aviation Safety Specialists, AFL-CIO (PASS).⁶ Representatives Susan Traugott Ludwig and Mark Kimmel presented the trade union's concerns regarding the extent and nature of the aviation inspector's role changing without adequate resources, training or support. It expressed regret that there were personality issues that did not help advance the agency's oversight responsibilities. Although PASS is unable to provide direct assistance to the Working Group, the exchange provided valuable insight on the aviation safety inspector's mandate to follow guidance.

AFS-500⁷ Workforce Development Division, Divisional Manager Bobby M. Hedlund, with the help of Stacy Wells, provided an overview of how the division was organized and the general flow of information among and between the policy, workforce and training development divisions. The Working Group was particularly interested in how training materials were developed and more importantly, changed. It was evident that the Flight Standards divisions did not coordinate effectively or efficiently. The most troubling aspect of the presentation was that the training was based upon guidance and provided by former aviation safety inspectors who may not have been trained to the plain language of the regulation.

The manager of the Orlando Flight Standards District Office was kind enough to provide the resources that allowed the presence of an experienced Aviation Safety Inspector, Larry A. Penland, and one with less than 12 months of experience, Michael Loehlein, to join the discussion and provide perspective on the Working Group's task. The inspectors were forthcoming in exchanging opinions and understanding on "required" inspector training, experience and how that knowledge impacted the day-to-day expectations regarding compliance with part 145. The Working Group's impression that the agency lacks specific training in the plain language of the regulations before introduction of policy and procedures was further confirmed. Currency of the training material is problematic and focused on administrative tasks, such as

⁵ AFS-900 is responsible for field implementation of national programs, including oversight of agency activities relating to the certification and surveillance of airmen, air operators, and air agencies engaged in air transportation under Title 14 of the Code of Federal Regulations (14 CFR) part [121](#).

⁶ The Professional Aviation Safety Specialists (PASS) represent Federal Aviation Administration (FAA) and Department of Defense (DoD) employees who install, maintain, support and certify air traffic control and national defense equipment, inspect and oversee the commercial and general aviation industries, develop flight procedures, and perform quality analyses of complex aviation systems used in air traffic control and national defense in the United States and abroad.

⁷ AFS-500, has responsibility for inspector training, including the annual call for training requirements.

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how to add data to the SAS portal during certification and surveillance activities. Working Group members also discussed the ability of the local office management to rely on experienced inspectors to perform on-the-job training in lieu of standard courses provided by AFS-500. This practice can exacerbate the adherence to guidance material rather than the plain language of part 145, particularly when the provider of the on-the-job training was never instructed in the statutory and regulatory requirements.

The initial report was prepared and circulated for comment; several on-line meetings were also held to discuss and coordinate changes and comments.

Statutory Review

The Working Group did a cursory review of the statutory and executive orders that control the actions of the Federal Aviation Administration and all federal agencies in general. While the review was not extensive, the Working Group noted that—

- The statute that created the FAA gives the executive branch almost exclusive power to regulate civil aviation in the interest of safety; with the highest degree of safety demanded of persons authorized to carry passengers or cargo in common carriage (i.e., air transportation). With this power comes the ability to—
 - Determine the regulations it will enforce; in other words, unless enforcement is required by law, the agency has full prosecutorial discretion.
 - Make reasonable interpretations of the requirements for compliance within the plain language of the regulations—making the connection between guidance documents and the regulations extremely important to ensuring those interpretations are reasonable.
- The Department of Transportation, under which the FAA is organized, recently issued a regulation⁸ that, in effect, requires any document that impacts the rights of or otherwise affects the expected compliance standard is to be executed under procedures set forth in the Administrative Procedure Act.
- The accommodations that federal agencies are to provide for small business entities appear to be missing from the FAA’s considerations. Although civil penalty ranges are addressed, guidance for repair stations that do not have or need the administrative resources to support extensive documentation of actions expected of large, complex organizations that perform technically complex or essential maintenance activities is missing.
- Submissions to the Office of Management and Budget supporting forms that are required or may be completed voluntarily by applicants and certificate holders do not reflect the realities associated with completion. Nor do they reflect the expectation that applicants and certificate holders complete the purportedly “voluntary” documents to proceed in the application process or make a change to the air agency certificate.⁹

Regulatory and Guidance Material Review

The working group performed an exhaustive historical review of the regulations and guidance governing corporate maintenance providers. The history extends from the Civil Aeronautics Regulations (CARs)

⁸ See, [49 CFR part 5](#).

⁹ Agency Information Collection Activities: Requests for Comments; Clearance of New Approval of Information Collection: Safety Assurance System (SAS) External Portal on July [11](#) and February [23](#), 2018 indicate that the number of respondents were a mere 300 and the amount of time per year for those users was 146. The Working Group believes the number of respondents and the hours that will be undertaken exceed the submission by a significant amount.

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through each regulatory change up to amendment 31 to part 145. The review included internal and external guidance material, from Civil Aeronautical Manual 52 through the current advisory circulars 145-9 and 145-10 and Order 8300.9/10 through the Order 8900.1 and the SAS DCTs.

Regulatory Review

Regulations governing entities (as opposed to individuals) authorized to perform maintenance, preventive maintenance and alteration on civil aircraft were introduced in 1937 as part 52 to the CARs. In recodifying the CARs to 14 CFR, the agency stated that it would not make any “specific substantive changes” because—

The purpose of the program is simply to streamline and clarify present regulatory language and to delete obsolete or redundant provisions. To attempt substantive change (other than minor, relaxatory ones that are completely noncontroversial) would delay the project and would be contrary to the ground rules specified for it in the FEDERAL REGISTER on November 15, 1961 (26 F.R. 10698) and Draft Release 61-25.¹⁰ (Emphasis added.)

The reality is that issues of concern and debate today are traceable to recodification for two reasons. First, the agency significantly changed the way its advisory materials and guidance were designed, formatted, and distributed. Second, its failure to include definitions and descriptions that were removed from the regulations but still impacted the scope, privileges and limitations of repair station activity in the “new” advisory material allowed the intent and purpose of the regulation to be lost. These issues are explored in the [Regulatory and Guidance Material Review](#) section.

The FAA's First Biennial Operations Review recommended that the requirements of part 145 be revised in 1975. However, it was not until 1988 that any changes were introduced. At that time, the nature and extent of work foreign repair stations were authorized to perform changed and certain repair stations could contract maintenance functions to non-certificated persons under limited circumstances.¹¹

The agency did not promulgate further notable changes to the repair station regulations for almost thirty years,¹² although it did hold public meetings on the subject in 1988 and 1989.¹³ The most significant

¹⁰ [27 FR 6662](#) (July 13, 1962).

¹¹ [53 FR 47362](#) (November 22, 1988).

¹² Proposed rule (64 FR [33142](#), June 21, 1999); Proposed rule; extension of comment period (64 FR 56708, October 21, 1999); Final rule with request for comments and direct final rule with request for (66 FR 41087, August 6, 2001) (This rule is effective April 6, 2003, with the following exceptions: § 145.163 which is effective April 6, 2005, and the removal of Appendix A to part 145 which is effective April 6, 2003, unless adverse comments are received by October 5, 2001. Comments on the information collection requirements must be submitted on or before October 5, 2001.); Final rule; reopening of comment period (66 FR 59692, November 30, 2001), Final rule; delay of effective date (68 FR 12541, March 14, 2003) (The effective date of the final rule amending 14 CFR parts 91, 121, 135, and 145 published on August 6, 2001, at 66 FR 41088 is delayed until October 6, 2003, with the following exception: Sec. 145.163 is delayed until October 6, 2005.); Final rule; delay of effective date; correction (68 FR 17545), April 10, 2003 (The effective date of the final rule amending 14 CFR parts 91, 121, 135 and 145 published on August 6, 2001, at 66 FR 41088 is delayed until October 3, 2003, with the following exception: Sec. 145.163 remains effective April 6, 2005.); Final rule; delay of effective date (68 FR 55819, September 29, 2003) (The effective date of the final rule amending 14 CFR parts 91, 121, 135, and 145 published on August 6, 2001, at 66 FR 41088 is delayed until January 31, 2004, with the following exception: Sec. 145.163 remains effective April 6, 2005.); Final rule; delay of effective date (70 FR 15580, March 26, 2005)(The effective date of Sec. 145.163 published at 66 FR 41117 (August 6, 2001) is delayed until April 6, 2006. The amendments in this final rule become effective April 6, 2006.)

¹³ As part of a regulatory review of part 43; part 65, subpart E; and part 145, the FAA held four public meetings in 1989 (54 FR 30866; July 24, and 1989).1989 (54 FR 30866; July 24, 1989).

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rulemaking since recodification began in 1999,¹⁴ became final in 2001 and the last portion (approved training program manual requirements) became effective in 2006.

During the 1999 rulemaking, the agency proposed changing substantial portions of the rating system and adding a quality assurance requirement. Neither proposal was adopted. Unfortunately, the agency's implementation of the Aviation Safety Quality Management System added elements of quality assurance to internal guidance, which reverses the failed rulemaking and regulates by policy. In addition, the agency made other substantive changes that have not been fully reconciled with valid information from previous versions of part 145.¹⁵

In short, the Working Group believes the current situation is an excellent example of the George Santayana quote, "Those who do not learn from the past are condemned to repeat it."

Guidance Material Review

Prior to 1967, guidance for both the agency and the industry was comprehensively provided in CAM 52. An immediately noticeable difference between today's method of delivering guidance and CAM 52 is the inclusion of pertinent legal interpretations and the Introductory Note to CAM 52 that made clear the agency's hierarchy of documents and their authority—

FAA rules are supplementary regulations issued pursuant to authority expressly conferred on the Administrator in the Civil Air Regulations. Such rules are mandatory and must be complied with.

FAA policies provide detailed technical information on recommended methods of complying with the Civil Air Regulations. Such policies are for the guidance of the public and are not mandatory in nature.

FAA interpretations define or explain words and phrases of the Civil Air Regulations. Such interpretations are for the guidance of the public and will be followed by the Agency in determining compliance with the regulations.

Further review of CAM 52 helped clarify the impact of omitting vital information in guidance—

- Paragraph 52.1 contains definitions that are essential for understanding the extent and nature of maintenance performed by repair stations that are still valid but unused—particularly definitions of alterations and repairs.
- Paragraph 52.21-1 contains the safety objective from a legal interpretation applicable to housing and facilities—

The objective of section 52.21 are to assure that the work being accomplished is protected at all times from the elements (rain, snow, wind, dust, and heat); that the workers are so protected that their physical efficiency will not impair the quality of work performed and that any maintenance operation will have the proper facilities for its efficient accomplishment.

¹⁴ The preamble to the NPRM states: "Very few substantive changes have been made to those repair station rules since they were recodified in the Federal Aviation Regulations (27 FR 6662, July 13, 1962)." 64 FR [33142](#) (June 21, 1999).

¹⁵ The Working Group determined that standards promulgated under previous iterations of the agency (e.g., Civil Aviation Agency, Federal Aviation Agency, Federal Aviation Administration), which the public was assured did not change during the transfer from "CAR" to "FAR", are essential to ensuring proper evaluation and analysis of compliance today.

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- Paragraph 52.25-1 describes the objective for each element in a required inspection system, paragraph (b) describes the performance expectations of an incoming material review—

A repair station must provide a satisfactory method of inspecting incoming material to the extent found necessary to insure that all incoming material is in a good state of preservation and free from any apparent defects or malfunction prior to being placed in stock for use in any aircraft or component.

The recodification promise that no standard or requirement changed was lost when the agency's cancelled CAM 52 without replacement. Instead, the FAA developed advisory circulars that focused only on the required manuals and began providing different or differing information on the entire certification process through guidance to its workforce, e.g., orders, notices, handbook bulletins, etc. Further information was lost when Orders 8300.9, 8300.10 and the countless other internal documents converted to the Flight Standards Information Management System (FSIMS), i.e., Order 8900.1. The agency's FSIMS database has never been cleaned of unnecessary, duplicative, contradictory or outdated information. It does not contain relevant historical information. Unfortunately, it contains too much data for any individual to comprehend what is or isn't missing and it is not conducive to intuitive research or searches based upon regulatory cites or criterion.

The Working Group notes one of the most glaring examples of the contrast between FAA Order 8900.1 and the same information contained in CAM 52 is current workforce guidance on the proper hierarchy of documents and their authority—

a) *The Importance of Consistency.*

1. Providing consistency is a duty the Flight Standards Service owes its stakeholders. In the broader sense, consistency is “adherence to the same principles,” which are the statutes, regulations, policy, and legal interpretations. Inconsistency makes organizational effectiveness difficult to measure and improve.

2. The Flight Standards Service also loses credibility with external stakeholders when employees provide inconsistent responses. Even when responses are consistent for different sets of facts, the Flight Standards Service runs the risk of losing credibility if employees cannot explain how their decisions are anchored in rule, policy, and interpretation.¹⁶

Unfortunately, unlike CAM 52, ASIs are prohibited from implementing their “Personal Ethics and Conduct” by this paragraph—

At no time will local interpretations be used in lieu of established policy found in this order or from other official FAA sources.¹⁷

In fact, an inspector must request permission to deviate from the “Order” (even if it contains information contrary to the plain language of the regulation) as explained in the continuation of paragraph 1-3—

A. Deviations From This Order.

1) Inspectors, supervisors, and managers who find that specific requirements in this order do not apply to a specific case should forward a request for permission to deviate from the

¹⁶ Volume 1 Titled GENERAL INSPECTOR GUIDANCE AND INFORMATION in Chapter 3 under INSPECTOR RESPONSIBILITIES, ADMINISTRATION, ETHICS AND CONDUCT Section 2 paragraph 1-177 B. Standards of Professionalism. 3) Consistency.

¹⁷ Volume 1, Chapter 1, Section 1, paragraph 1-3 Standardization and Consistency.

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requirements through their division to the applicable division manager of the “Document Owner” listed on the Publication Index Card (PIC), which can be found by clicking on “Pub Data” in the FSIMS Document Viewer window. The originating office must specify in its request the alternate means it will use to meet the intent of the policy from which it wishes to deviate.

2) The division manager for the document owner will notify the requesting office/branch if the request is granted or denied through a signed memorandum to that office/branch. Flight Standards Publications Branch will publish the Deviation Memorandum in FSIMS.

The deviation request process is unnecessarily bureaucratic, it does not allow an applicant or certificate holder to point out plain errors or omissions even though those are directly impacted parties, and it does not ensure that blatant errors or misinterpretation of the plain language of the regulations are removed from the guidance in an expedited manner.

Essential information once contained in a singular comprehensive document is now contained in disjointed, separately updated, and incomprehensively managed internal and external sources. Even in 1962, FAA Flight Standards personnel (and the industry) found guidance on certificating and oversight of certificate holders in the four volumes of Order 8300.1: today’s Order 8900.1 totals twenty (20) volumes of information. The internal guidance has not only grown exponentially but has become prescriptive while maintenance regulations are performance based. The external guidance is directed at creating manuals acceptable to the agency, not on the elements necessary to obtain and maintain a part 145 air agency certificate. Due to inconsistency of development, transfer and implementation of the internal mandates, there are direct conflicts within that guidance, with the regulations and with external advisory circulars.

According to the preambles that codified 14 CFR, the definitions, descriptions, and scope of repair station privileges and limitations in the CAM documents are still valid.¹⁸ Unfortunately, following recodification, the FAA cancelled CAM 52 without replacement; instead the agency separated “internal” guidance through Orders, Handbooks, policy statements, information bulletins and the like, from “external” guidance, i.e., Advisory Circulars.¹⁹ The bifurcation of information has resulted in all guidance drifting from the plain and historical meaning and intent of the regulations, dramatic differences between internal and external information and the inability to correct, update and manage the myriad documents in a timely manner.

Oversight System Review

In May 1996, the FAA created a task force to take a close look at the way it was certificating and conducting surveillance on part 121 and 135 certificate holders. The review led to the introduction of the Air Transport Oversight System (ATOS) in 1998, which was the agency’s first official use of a data-driven, risk-based approach to its certification and oversight responsibilities. The purpose of ATOS was to assess the safety of a certificate holder using system safety principles and attributes and risk management practices. The agency defined three functions for management of the new oversight system:

¹⁸ [27 FR 3756](#) (April 19, 1962) stating: “The object of the new chapter is to restate existing regulations not to make new ones. The pertinent provisions have been freely reworded and rearranged, subject to every precaution against disturbing existing rights, privileges, duties, or functions. In addition, in cases where well established administrative practice or construction has established authoritative interpretations, the revised language reflects the interpretations.”) and [26 FR 10698](#) (November 15, 1961) stating “This notice proposes no substantive changes in the regulations and is not a notice of proposed rulemaking subject to the Administrative Procedure Act.”

¹⁹ Neither Advisory Circular 145-3 Guide for Developing and Evaluating Repair Station Inspection Procedures Manuals nor the current AC 145-9A, Guide for Developing and Evaluating Repair Station and Quality Control Manuals contain the elements necessary to become and remain a part 145 certificate holder.

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Design Assessment (DA), Performance Assessment (PA), and Risk Management (RM). These tools were to focus oversight on the design and performance of processes that a certificate holder employed to conduct its business.

FAA inspectors encountered issues in both understanding and using the ATOS, which led to inconsistent inspection methods, inability to balance the amount of surveillance to the operators' size, and ineffective assessments of critical systems to reliably identify risk. To rectify the issues encountered by ATOS implementation, the System Approach for Safety Oversight Office (SASO) was created to develop and implement a comprehensive, integrated system safety methodology for the certification and oversight of civil aviation certificate holders. The work is to align the FAA with the International Civil Aviation Organization (ICAO) standards and recommended practices for system safety management oversight. The Safety Assurance System is also to integrate the safety assurance component of the FAA Flight Standards' internal Safety Management System (SMS).

The Airline Safety and Federal Aviation Administration Extension Act of 2010 (Public Law (PL) 111-216, August 1, 2010) directed the FAA to conduct rulemaking requiring "all part 121 air carriers to implement a safety management system." Final rules published on January 8, 2015 required part 119 certificate holders authorized to conduct operations under part 121 to develop and implement an SMS.

Unfortunately, the SAS methodology has been rolled out to other certificate holders without acknowledging the fact that air carriers have different regulatory requirements and responsibilities than other certificate holders. The growth of the SAS elements for large, interwoven, and complex regulatory compliance elements is not appropriate for smaller less complex compliance requirements. This is particularly relevant since the SMS requirements are only applicable to a limited number of certificate holders.

SAS Application to Repair Stations

The working group reviewed the FAA's Safety Assurance System (SAS) Data Collection Tools (DCT) for repair stations because of concerns that it contained requirements that are not supported by the regulations applicable to repair stations.

The three elements of the agency's current certification and oversight system each has a unique purpose. The DA element is meant to evaluate the applicant's compliance with the regulatory requirements. The PA element is to evaluate the certificate holder's ability to follow its defined compliance design. The RM element is designed to aid the agency in managing its limited resources by measuring a certificate holder's management of internal and external factors that might affect the ability to meet its defined operations.

A review of the DCTs confirmed the concern is real, and that additional problems exist—

- Most SAS DCTs (at least 80 per cent) do not reference a regulation as the basis for the question(s), rather content points to guidance (e.g. AC, Order, policy etc.) as the primary or only source for the "requirement."²⁰
- Answers imply that guidance information is a requirement, since the only choices are if the CH has—
 - met regulatory and guidance requirements
 - isolated instance(s) when guidance requirements were not met

²⁰ SP 1.0 145F AW Org. Management related to financial control or authority is only one of many equally egregious examples. The regulations do not support requesting any financial information from part 145 applicant or certificate holder. Furthermore, the agency provides absolutely no authority, guidance, or methodologies for an inspector to confirm the accuracy or veracity of an answer.

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- several instances when guidance requirements were not met
- regulatory noncompliance
- not observable

Even more troubling is the fact that after completion of all “required” elements, the agency’s workforce still cannot obtain a risk assessment for a repair station when measured against the standard requested by Congress, that is “the type, scope, and complexity of work being performed.” In fact, all three elements (Design, Performance, and Risk Management) are weighted the same, resulting in the agency spending as many resources on low-risk, well-managed persons as it does on high-risk, poorly managed certificate holders.

Summary of Regulatory and Guidance Material Review

The Working Group’s comprehensive review of internal and external guidance confirmed the fact that those documents do not consistently reflect the plain language and meaning of applicable regulations, nor is the information consistently monitored between lines of business within Flight Standards to ensure updates and training are provided in a timely manner.

Realignment Exercise

During its deliberations, the Working Group developed an excel spreadsheet that captured the information essential to evaluating issues experienced today against the plain language, history, and performance expectation of the regulations. To determine whether using the plain language of the regulations, valid historical elements, and preamble information would bring resolution to issues experienced by members, the working group analyzed the sections and paragraphs of part 145 that were troublesome to the most Working Group members.

“Acceptable to the Administrator”

The phrase “acceptable to” is used throughout 14 CFR—it is common in performance-based regulations. It allows the applicant or certificate to choose any method that meets the plain language and intent of the regulatory requirement. Unfortunately, guidance associated with the regulations containing the phrase often add proscriptive demands. The two most troubling examples are associated (a) with creating, implementing, maintaining, and retrieving or submitting documents and other records, and (b) use of methods, techniques and practices associated with performing maintenance. The Working Group’s final report will cover the latter issue.

Although the agency originally provided all aviation safety inspectors an explanation of the phrase “acceptable to”,²¹ the knowledge of its meaning and application has not been conveyed in a clear manner. Furthermore, when the information was moved to Order 8900.1, it ended up in a Chapter that does not appear to be applicable to all usage of the phrase, but only when applied to “The General Process for Approval or Acceptance of Air Operator Applications”, which does not include air agency certificate applications or another usage of the term. The result is inconsistent understanding and application of the “requirements” associated with the section which uses the verbiage. Some aviation safety inspectors, applicants and certificate holders believe the phrase applies to the personal preference of a FAA representative. Realistically, if the method chosen and used by the certificate holder achieves the objective—the manual is readily available to employees or the records required to be kept are in fact

²¹ The original Notice 8900.444 moved to Order 8900.1 it was placed Volume 3, Chapter 1—The Gen, Section 1, paragraph 3-1B.1). That placement is evidence that the assignment of policy changes to a particular division creates situations where general information is directed at that office’s primary responsibility rather than all aviation safety inspectors.

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present and retrievable—the agency would be hard-pressed to prove a violation of its regulations. Unfortunately, neither the agency’s personnel nor the industry has mandatory training on the regulation, its history and the extent and nuances of enforcement. Without the basic knowledge and understanding, standardization of approach, evaluation and outcome will continue to be elusive.

“Format Acceptable to the Administrator”

With respect to the issues associated with required documents and records, the Working Group found that the preambles to the part 145 notice of proposed rulemaking (1999) and the final rule (2001) specifically discussed “electronic” format for manuals and records. Additionally, public laws directed at the agency’s activities address reducing resources expended on creating and maintaining “required” documents by encouraging “e-sign” capabilities. Despite these facts and technical advancements, it is more difficult to obtain permission to use ubiquitous software and storage systems than it was to get an exemption from the pre-2001 final rule.

Order 8900.1 “requires” certificate holders to obtain permission to use electronic creation and storage of records including those that do not include signatures.²² The entire intent of the regulatory change to ease restrictions on how manuals were made available to repair station personnel was lost by the agency’s artificial requirements—the need to create “procedures” on how the record or manual will be created, accessed, protected, maintained and retrieved to get approval or obtain an operations specifications paragraph “allowing” an electronic manual and record creation and maintenance system.²³

Despite the regulations’ plain meaning and background, Working Group members report that their submissions must also conform to the individual inspector’s “personal preference.” Applications and documents have been rejected for a variety of reasons not contemplated by the rule, including the inspector’s preference for a certain kind formatting (e.g., font size) and media type (e.g., Adobe).

The Working Group could not find guidance that effectively or clearly communicates the agency’s requirements, however, reading the regulation in context with the section’s history quickly revealed the FAA’s intent.

The following sections of part 145 contain the phrase “format acceptable to the FAA” —each is related to creating, submitting, or maintaining documents. When the agency has a form for a specific purpose, the “format acceptable to the FAA” is that form or the information required by the form. When the phrase is associated with the repair station’s requirement to create, maintain and update data or documents, the 2001 final rule preamble clearly states that it means a media that can accomplish the performance objective and be read or analyzed by the FAA for issuance and oversight of the air agency certificate.

²² [Order 8900.1, Volume 3, Chapter 31, Section 2 \(Change 466\)](#) misrepresents the requirements of the public laws its references. The Government Paperwork Elimination Act, PL 105-277, Title XVII and the Signatures in Global and Nation Commerce Act, PL 106-229 are directed at the government—not the public. Under the cited laws, if a document must be signed before submission to the government, e.g., tax returns, applications for a certificate, the respective agency may set standards for acceptance of those documents and how signatures are applied to them. The laws do not apply to records that must be created and maintained by the public or certificate holder and made available to the government to show compliance, i.e., tax records or part 145 repair station or quality manuals.

²³ [Order 8900.1, Volume 3, Chapter 31, Section 1 \(Change 466\)](#) states: “This section contains a general overview of the characteristics and **requirements** of electronic manuals, records, and signatures.” In other words, to be “allowed” to use an “electronic” (non-paper) method of creating, providing access to and maintaining a repair station or quality manual, one “must” be issued an Operations Specifications paragraph. To be issued that paragraph, the information “required” by the guidance to the agency’s workforce is demanded from the applicant or certificate holder—these demands are well beyond the use of ubiquitous hardware, software and “cloud” applications.

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§§ [145.51](#) and [145.57](#) – Application for certificate and amendment to or transfer of certificate. Paragraphs (a) and (d) of section 145.51 and (a) of section 145.57 require applications for an initial certificate and for any additional rating, amendments or renewals be made “in a format acceptable to the FAA.” The phrase, in these cases, refer to FAA Form [8310-3](#) and to the fact that the information must be provided must in the English language.”²⁴

§ [145.109\(d\)](#) – Equipment, materials, and data requirements. Paragraph (d) requires the certificate holder to maintain, “in a format acceptable to the FAA” the documents and data needed to perform work in accordance with part 43.²⁵

§ [145.159](#) – Recommendation of a person for certification as a repairman. When recommending an individual for a repairman certificate the repair station certificate holder “must certify in a format acceptable to the FAA” that the person is used by the certificate holder and appropriately qualified. In this instance, the agency is expecting a letter to be written by the repair station certificate holder that is signed by an appropriate executive of that repair station that contains the information required by the regulations.

§ [145.161\(a\)](#) – Records of management, supervisory, and inspection personnel. The roster and employment summary but be maintained and made available “in a format acceptable to the FAA.”

§ [145.163\(c\)](#) – Training requirements. Employee training must be documented in a “format acceptable to the FAA.”²⁶

§ [145.211\(c\)](#) – Quality control system. The repair station’s quality control manual must be prepared and kept current “in a format acceptable to the FAA.”²⁷

§ [145.215\(b\)](#) – Capability list. The repair station’s capability list must be available in “a format acceptable to the FAA.”²⁸

§ [145.217\(a\)\(2\)](#) – Contract maintenance. The repair station’s list of maintenance function contractors must be “in a format acceptable to the FAA.”

§ [145.219\(a\)](#) – Recordkeeping. The records demonstrating compliance with the requirements of part 43 must be retained “in a format acceptable to the FAA.”

§ [145.221\(a\)](#) – Service difficulty reports. The report must be in “a format acceptable to the FAA.”

The Working Group’s research reveals that the agency clearly did not expect its workforce to be finding any standard and readily available method for creating, updating, maintaining, and retrieving documents

²⁴ The preamble to the final rule states “Paragraph (a) also has been revised to permit applications for changes in a format acceptable to the FAA rather than on a form as specified in the proposal.” 66 FR [41097](#) (August 6, 2001). It also states “paragraph (a) requires that all applications be in a format acceptable to the FAA, and the FAA has determined that only applications in English will be acceptable.” *Id* at [41096](#).

²⁵ The preamble to the final rule states, “...the final rule permits the required documents and data to be maintained in a format acceptable to the FAA. As previously noted, this language will permit the information to be stored electronically and give the FAA the discretion to permit the storage of information through other media, if appropriate.” 66 FR [41101](#) (August 6, 2001). (Emphasis added.)

²⁶ The final rule preamble explains, “...the FAA notes that the language ‘in a format acceptable to the FAA’ refers to the media by which the records will be submitted, for example electronically.” 66 FR [41104](#) (August 6, 2001). (Emphasis added.)

²⁷ The final rule preamble makes clear, “[t]he manual may be in any format acceptable to the FAA, including but not limited to paper or electronic format.” 66 FR [41106](#) (August 6, 2001).

²⁸ Again the final rule preamble makes clear, “...the FAA notes that the capability list must be maintained in a format acceptable to the FAA; as previously discussed, the use of this language will permit repair stations to maintain the list electronically.” 66 FR [41109](#) ((August 6, 2001). (Emphasis added.)

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and data required by the regulations “unacceptable.” Yet, today, since the regulations are not taught to the workforce or the agency personnel, the phrase is misunderstood, misused, and abused. The 2001 final rule made it unmistakably clear that if the result is the documents and data required are made, stored and available upon request, the method is “acceptable to the FAA.” Pen and paper records are more subject to falsification, loss and destruction than those created and maintained through Microsoft products. The requirement to have elaborate “security systems” which are built into today’s software and hardware that the agency itself uses is unacceptable.

Contracting Maintenance

One of the most troubling aspects of part 145 involves the privilege for a repair station to contract maintenance “functions” for which it is rated. To understand the best method of showing and assessing compliance with this privilege, a review of its history and relationship to the overall certification and quality control requirements of a repair station are necessary. In order to reach an understanding of the issue, the Working Group undertook a review of the history of contacting maintenance and regulations that must be assessed under the current regulations to determine the amount and extent a certificated repair station can contract maintenance.

The ability of an air agency to contract maintenance functions (and only to another repair station) was originally an exception to a rigid list of equipment and material required to be located on the premises and under the control at an applicant or certificate holder’s fixed location in order to obtain specified ratings. The exception were contained within each rating²⁹ indicated in CAM 52 as an asterisked item.³⁰ That equipment and material list moved from CAM 52 to part 145 as Appendix A during recodification.

The FAA expanded the contract maintenance element by first proposing that type-certificate holders be allowed to contract maintenance to non-certificated persons.³¹ The final rule expanded that privilege to all production approval holders and the FAA recognized that the “auspices of a U.S.-certificated repair station” would ensure the work was performed correctly.³² The last change to the contract maintenance privilege was introduced with other equally important amendments.

During the June 21, 1999 rulemaking, the agency proposed to expand the privilege to contract maintenance to all repair stations.³³ A prohibition from issuing an “approval for return to service only” on a complete

²⁹ Civil Air Regulations sections 52.31 through 52-36.

³⁰ As an example: CAM 52.31-1 Equipment and materials; airframe rating (FAA interpretations which apply to section 52.31). (a) General. An applicant for any class of airframe rating must provide equipment and material for the competent and efficient performance of the following job functions with the class of rating applied for. An asterisk (*) indicates that the applicant need not have equipment and material on his premises for this function provided he contracts that particular type work to an outside agency having such equipment.

³¹ [53 FR 47376](#) (November 22, 1988).

³² In proposing this concept, the FAA recognized the process established and approved for type certification and manufacture of new products and established a parallel system to include maintenance requirements for a product and to provide an additional means for a repair station to contract out certain components to a noncertificated facility for maintenance. This process is intended to ensure that the repaired component, like the original manufactured component, is airworthy and meets all requirements for installation on the type certificated product. This process also recognizes that the original component manufacturer is a viable source for engineering data, technical expertise, and service information. In addition, the repair of the component would be accomplished under the auspices of a U.S.-certificated repair station (the type certificate holder), which has met the requirements under Part 145 for such a facility and is inspected and approved by the FAA. (Emphasis added.) [53 FR 47364](#) (November 22, 1988).

³³ Notwithstanding concerns expressed by certain industry groups during the public meetings, contracting out maintenance under the current regulations has proven safe for more than 40 years. In an effort to harmonize part 145 with JAR 145, the FAA

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type-certificated product was included to prevent “paper only” repair stations.³⁴ The privilege to contact maintenance, up to and including the overhaul of components, but continuing to exclude “completed type certificated products” was included in the final rule. Unfortunately, at the same time the agency removed appendix A.³⁵ The connection between the requirements to have adequate housing, facilities, equipment, material, personnel, and data to ensure work approved for return to service has been performed correctly and what can be contracted has been lost.

The transition from a highly controlled and limited approach to contract maintenance to an open-ended capability was lost in translation. Guidance material to the public³⁶ and agency personnel has changed numerous times since the final rule was issued. To date, the connection between the capability of a repair station to make airworthiness determinations on work performed by itself or others under its control by contract has not been reviewed comprehensively.³⁷

Under the history and the preamble language to the last revision of part 145 discussed above, the current regulations that must be assessed include:

§§ [145.51](#)(a)(3), (5) and (6) – Application for certificate. Requires an applicant for a repair station to provide the agency with a list of the functions it will be contracting along with a description of its housing, facilities, equipment, and materials.

§§ [145.59](#) – Ratings, [145.103](#) – Housing and facilities requirements, and [145.109](#) – Equipment, materials, and data requirements. All require certificate holders to update their application information if there are changes in those elements and to maintain those elements for the work it performs.³⁸

§ [145.151](#) – Personnel requirements. Require the applicant and certificate holder to ensure it has enough qualified personnel to plan, supervise, perform, and approve for return to service the work it will perform under its ratings and operations specifications.

proposes to continue permitting repair stations to contract out maintenance and alteration of components of a type certificated product as is permitted under current 145.47. However, the proposal would permit any repair station to contract out such work on any article for which it is rated (other than a complete type-certificated product), provided certain conditions are met. 64 FR [33149](#) (June 21, 1999).

³⁴ The proposed limits on contracting maintenance would be that contracting of complete, assembled, type certificated products would not be permitted and a certificated repair station also would not be allowed to only provide approval for return to service for a product after contract maintenance is performed, thereby prohibiting “paper only” repair stations. 64 FR [33149](#) (June 21, 1999).

³⁵ The preamble states, “The FAA agrees with commenters who expressed concern about the difficulties in keeping appendix A current; therefore, the agency has decided to withdraw appendix A.”**The final rule revises the equipment requirements and the contracting out provisions to provide more flexibility for repair stations to accomplish maintenance, preventative maintenance, or alterations on articles for which they are rated. 66 FR [41091](#) ((August 6, 2001).

³⁶ Advisory Circular [145-9A](#) does not contain the information necessary to show compliance with part 145—its stated purpose is to help applicants and certificate holders develop and evaluate a Repair Station Manual (RSM) and Quality Control Manual (QCM).” Therefore, Section 5.7 cites only some of the regulations that apply to contract maintenance and does not follow the history or logic of the pertinent regulatory requirements.

³⁷ Guidance to the agency’s workforce begins with the question of whether the repair station “is exercising the privileges of its certificate” rather than its capabilities. (Order 8900.1, change 503, April 17, 2019, [Vol. 6 Chapter 9 Section 23](#).)

³⁸ The preamble to the final rule made clear that the ability to contract maintenance functions and the need for specific equipment were intrinsically linked: “Repair stations will no longer have to maintain a seldom used, expensive piece of equipment just to retain their current ratings. Repair stations and their contract maintenance providers will still be required to have the equipment when performing a maintenance function. Likewise, the contracting out provisions have been revised to better reflect current industry practices in specialized areas. The combination of these actions effectively incorporates appendix A in its entirety.” 66 FR [41091](#) ((August 6, 2001).

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§ [145.201](#) – Privileges and limitations of certificate. Clearly allows the certificate holder to “[a]rrange for another person to perform maintenance, preventive maintenance, or alterations of any article for which the certificated repair station is rated.” (Emphasis added.)

§ [145.211\(c\)\(1\)\(vi\)](#) – Quality control system. Requires the certificate holder to have a system and procedures for “[q]ualifying and surveilling noncertificated persons who perform maintenance, preventive maintenance, or alterations for the repair station.” If the repair station decides to use noncertificated maintenance function contractors, it must qualify and oversee them to the extent necessary to determine if the work can be performed properly.³⁹ The procedures required by section 145.217 ensure the work is verified by inspection or test.

§ [145.213](#) – Inspection of maintenance, preventive maintenance, or alterations. Requires the certificate holder to perform a final inspection of any work performed before the work is approved for return to service. This would include any work performed by a maintenance function contractor.⁴⁰

§ [145.217](#) – Contract maintenance. This section requires the maintenance functions to be approved by the agency and for the certificate holder to keep a list of the maintenance function contractors it uses to accomplish those functions. It also requires the certificate holder to verify that the work performed by noncertificated sources was performed satisfactorily before approving the work on the article for return to service. This section also contains the prohibition against providing “only approval for return to service of a completed type certificated product” after a contractor has performed work.

§ [145.219](#) – Recordkeeping. Requires the repair station to keep records that comply with part 43, specifically that would include sections [43.9](#) and [43.11](#). Section [43.9\(a\)\(3\)](#) requires the “names of all persons performing maintenance, preventive maintenance or alterations” if other than the person (repair station) approving the work for return to service. This requirement means the names of the contract maintenance function providers would need to be in the repair station’s records.

Without basic housing, materials, equipment, personnel and data, a repair station cannot perform work appropriately or make determinations of whether others working under contract for the certificate holder have performed work properly. The evaluation of what a certificated repair station may contract starts with an understanding of the applicant’s capabilities. When a person makes a repair station application it must provide a list the maintenance functions it will contract as well as a description of the housing, facilities, equipment and materials that will be at the fixed location and under its control. Additionally, it must submit the documents (manuals and forms) required by section 145.51. The same obligations that apply to obtain a certificate continue after the certificate is issued.

From the applicant’s information, the agency issues suitable ratings with appropriate limitations. If the work the repair station proposed to contract in its application is inappropriate for the rating ultimately issued, an approved function list needs to be provided with the certificate. Otherwise, the maintenance functions listed in the application are approved at the time the requested rating is issued. When the repair station requests another rating or adds internal capabilities, the agency must be notified, and the approved maintenance function list may need adjustment. The only limitation on contracting “maintenance

³⁹ The FAA stated: “In this final rule, repair stations that contract maintenance functions to other certificated repair stations will not be required to survey those contractors. The rule requires a certificated repair station to qualify and survey only noncertificated persons who perform maintenance functions for the repair station.” 66 FR [41108](#) (August 6, 2001).

⁴⁰ The final rule preamble states: “[A] repair station is always responsible under § 145.213 for ensuring that an article is inspected and that a determination is made that the article is airworthy.” 66 FR [41110](#) (August 6, 2001).

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functions” should be the repair station’s ratings, its ability to control its contractors as required by section 145.217, and the ability to determine that the work was performed and is recorded properly.

Unfortunately, this analysis does not address the questions related to the issuance of suitable ratings. Those matters will be addressed in the Working Group’s final report.

Section 145.203 Work Performed at Another Location

This section of the regulation has caused consternation and differing applications due to the simple mechanics of the rule, its plain language, and the preamble which appear to contemplate two options.⁴¹ After experience with applying the rule, the agency’s guidance developed three scenarios.

- Work away from the fixed location when necessary to address unusual or special circumstances by asking and receiving an “as determined” permission on a case-by-case basis from the FAA. This option works for repair stations that rarely or never have or contemplated working away from the fixed location and will apply for an FAA determination on a case-by-case basis.⁴²
- Work away from the fixed location to address the unusual and special circumstance that have been pre-determined by the FAA and for which procedures are included in the certificate holder’s section 145.209 manual. This option was developed for repair stations that work away from the fixed location on a more frequent basis, but only for specific limited work scopes, such as borescope inspections when requested by a customer.⁴³
- Work away from the fixed location on a recurring basis in accordance with procedures in the certificate holder’s section 145.209 manual. This option is for repair stations that have mobile units or fixed assets in multiple locations to perform work under its repair station certificate occasionally or on a recurring basis.⁴⁴

The third option has been controversial due to the verbiage “may temporarily transport” the equipment, materials, etc. to another location. In early application of the regulation, a repair station with mobile units assigned to a particular region of the country were required to return to the fixed location so the transport of the equipment, materials, etc. remained “temporary.” The “return to base” restriction belied the rule’s purpose to allow work away from the fixed location “as part of everyday business practices.” An Office of the Chief Counsel interpretation ends that controversy by stating that “temporary transport” had not been defined or explained in the rule or its preambles and therefore, to impose an unspecified return to base requirement was unsupportable.⁴⁵

Although not specifically addressed by the legal interpretation, the phrase “continuous” has been troublesome. Mobile units are deemed to be performing work away from the fixed location on an intermittent but not “continuous” basis because the “work” is performed at different locations.

⁴¹ “This final rule permits a repair station to perform work away from the repair station’s location when the work is necessary due to a one-time special circumstance, for example, an aircraft on the ground or in preparation for a ferry flight, as determined by the FAA. The rule also permits work away from a repair station’s fixed location when it is necessary to perform such work on a recurring basis, if the repair station’s manual includes procedures for accomplishing maintenance, preventive maintenance, alterations, or specialized services at a place other than the repair station’s fixed location. This later provision will allow work away from a repair station’s fixed location as part of everyday business practices rather than under special circumstances only, as proposed.” 66 FR [41105](#) (August 6, 2001).

⁴² AC [145-9A](#), paragraph 5.5.2.3.

⁴³ Ibid at paragraphs 5.5.2.1 and 5.5.2.2.

⁴⁴ Ibid at paragraph 5.5.3. The guidance requires the repair station to be issued an operations specifications paragraph D100; however, the rule only requires the repair station to have procedures in its manual to exercise this privilege. (Order 8900.1, [Volume 6, Chapter 9, Section 16, paragraph C.1](#)) (Change 503).

⁴⁵ See, September 30, 2014 letter to [Keystone Turbine Services](#).

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Troublesome issues arise when work is “continuously” performed at a single location but under different certificates. For example, a part 145 certificate holder may be asked to perform an work for another repair station as a non-certificated maintenance provider. Alternatively, a customer may merely hire individual certificated mechanics from a company that holds a repair station certificate. In such cases, the work is performed either under the customer or mechanic’s part 43 authority. Therefore, work performed by the repair station at that location will be intermittent, not continuous. Since these scenarios are part of repair stations everyday business, they comport with the intent of the regulation. Unfortunately, this is not explained in any guidance material, which leads to disagreements and inconsistencies in application. Some repair stations are “forced” to either stop the activities or “open” satellite facilities.⁴⁶

The Working Group found that guidance is inconsistent. Neither the guidance to the public nor the agency employees provide the information necessary to ensure standard understanding of the regulatory language and its intent. The guidance to the agency workforce includes information on “additional fixed locations”, which is unrelated to showing compliance with the working away from the fixed location regulation.⁴⁷ The advisory circular contains different details from those contained in the guidance issued to the aviation safety inspectors. The information is not presented in an easily digestible manner nor does it include the nuances introduced by the legal interpretation. Further, the objectives of the performance-based regulation are lost with the rigid demands of the SAS DCT certification and oversight methodology.

Review of International Aviation Safety Agency Guidance Systems

The working group reviewed other Civil Aviation Authorities (Canada TCCA, the European Union EASA; and Australian CASA) methods of developing guidance from their statutes and regulations to understand different approaches to advisory materials. Each system has its advantages and disadvantages; none are perfect, but the Working Group notes that the ease of finding relevant information is enhanced when the guidance document identification information is consistent with the numbering and requirements of the regulations.

Review of Legal Interpretations

The Working Group has also reviewed FAA legal interpretations on from the FAA’s Chief Counsel’s office as well as federal court decisions⁴⁸ associated with compliance with parts 43, 65 and 145.

The Working Group was unable to decipher the history of how legal opinions were rendered by the Office of the Chief Counsel. Subjectively, members remember when each Regional Counsel could issue a legal opinion and to obtain those documents, a freedom of information act request needed to be filed. At this time, the Office of Chief Counsel only renders legal opinions to its internal workforce unless the public request can be generally applied.

The Working Group compiled the relevant legal interpretations and will provide them as an addendum to its Final Report. It notes at this time that relevant legal interpretations are not communicated to the agency

⁴⁶ See Note 1 in AC [145-9A](#) to paragraph 5.5.3.

⁴⁷ Order 8900.1, [Volume 6, Chapter 9, Section 16](#), paragraph 6-1953 (Change 503) Work away is evaluated under a different section of part 145; guidance should not mix regulatory compliance requirements. Section 16 is entitled *Safety Assurance System: Inspect a Part 145 Repair Station and its Authorization for Work Away From its Fixed Location*. The regulation discussed is section [145.203](#); the paragraph on additional fixed locations does not cite a regulation, but it is evident by the information requests that they are handled as a “change” in location under section [145.57](#).

⁴⁸ Federal cases are very fact specific and not particularly helpful to an evaluation; however, the Working Group did make the query since a recent case created doubt among inspectors and repair stations regarding the amount and type of records required under part 43 and what is required by part 145, i.e., [Aerobearings, LLC v. Elwell](#), No. 18-1160, July 12, 2019.

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workforce, applicants, and certificate holders in any comprehensive and timely manner. This lack of coordination is unfortunate when the information is vital to showing and finding compliance.

Finding and Root Causes

The Working Group found that the FAA's system for transforming regulations into guidance material for the public and its workforce does not consistently and continuously ensure alignment with the plain language and objectives of the myriad statutes and executive orders applicable to rulemaking, oversight and enforcement activities. Therefore, the elements sought by the agency in internal and external guidance are not based upon a reasonable interpretation of the standards established by law.

- (1) With respect to the alignment of internal and external guidance with the law, regulations and executive orders, the Working Group specifically found that the agency's guidance for part 145 applicants, certificate holders and its workforce is contained in four separate volumes with 46 sections, two advisory circulars, SAS Data Collection Tools (DCTs), legal interpretations, Regulatory Consistency Communication Board (RCCB) decisions, policy statements and numerous other places and documents.⁴⁹ These sources contain different data, some of which is incorrect, misdirected, or which directly conflicts with other information issued to the same or other persons, divisions or business units of the Flight Standards Service, the Office of Aviation Safety or the plain language of the regulations.

Current advisory circulars do not provide guidance on the certification and surveillance process or expectations, rather, they contain information on "writing a manual" which is a small portion of the compliance requirements for part 145 applicants and certificate holders.

Important historical compliance information was lost in the transformation of the CARs to 14 CFR, cancellation of CAM 52, separation of guidance to the public from that issued to the agency's workforce, implementation of the FSIMS and the prescriptive nature of the SAS.

- (2) Neither guidance nor the agency's current oversight system, executed through the SAS DCTs consistently reference or annotate applicable laws, regulations, or legal interpretations.
- (3) The DCTs do not establish a baseline for data-driven, risk-based decision making for oversight of certificate holders based upon the amount, type, scope, and complexity of work performed and the certificate holder's size.

Guidance Document Drift

The loss of historical information combined with the segmentation and exponential growth has led to guidance drifting away from the plain language of part 145's performance-based requirements. The advent of state safety program principles through the FAA's SAS has exacerbated the situation by placing proscriptive demands in guidance that must be followed by the agency's workforce.

⁴⁹ The [Consistency of Regulatory Interpretation Aviation Rulemaking Committee](#) (CRI-ARC) November 28, 2012 report's primary recommendation was for the Aviation Safety organization to "review all guidance documents and interpretations to identify and cancel outdated material and cross-reference (electronically link) material to its applicable rule. Further, the ARC recommends the FAA expand its current Aviation Safety Information Management System (AVSIMS) initiative to consolidate the service organization-level libraries into a single AVS master electronic database resource, organized by rule, to allow agency and industry users access to relevant rules and all active and superseded guidance material and related documents." Although progress continues to be made on the "dynamic regulatory system (DRS)" it has yet to be implemented in any significant manner.

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Additionally, legal opinions from the Office of Chief Counsel and decisions of the Administrator, NTSB and federal courts are not immediately available to the agency's workforce and thereafter not expeditiously included in guidance information.

The gap between the plain language and intent of a performance-based regulation and guidance is further exacerbated by the agency's training development and delivery methodologies.

Agency Divisional Independence

After briefings by the various agencies and then by the FAA's divisions, it became apparent to the Working Group that the FAA's divisions lack coordination in mutual efforts. The absence of cohesiveness may stem from each division having its own mission statement which promotes the human tendency to protect the territory of the mission rather than the agency's legal objectives.

A rulemaking project is assigned to the office of primary responsibility and can take years. During the part 145 rulemaking project some 8 to 10 individuals within the FAA's Flight Standards policy division were involved. That policy division is responsible for guiding the workforce towards regulatory understanding and standard application, yet it does not deliver the training. The division responsible for training does not develop content, nor is it involved in rulemaking, it merely administers the delivery. The lag between a regulatory or policy update and providing training can be extensive, which exacerbates different offices in the agency handling matters on an ad hoc rather than standardized basis. The SAS is handled by yet another division that seems to have little relationship to the development and reasonable interpretation of the regulations.

Advent of QMS and SAS

The introduction of an accredited quality management system followed by the establishment of safety management oversight system required by the ICAO created a prescriptive approach to repair station certification and surveillance that negates the legislative and regulatory directed performance-based rules.

The adoption of a Quality Management System (QMS) for its Flight Standards division drives the agency to standardize FAA employee action to encourage consistency.⁵⁰ Unfortunately, the agency does not differentiate between internal employee performance requirements and those elements required to be shown and maintained by an applicant and the repair station certificate holder. As a result, the FAA did not develop an oversight system that accommodates the performance-based regulations it promulgated for repair stations.

Simultaneously, following the directive from ICAO, the agency promulgated part 5 and began transforming its original risk-based oversight system for operators subject to that rule, ATOS, into the SAS certification and surveillance methodology. Unfortunately, the application of SAS does not accommodate certification and oversight when the regulation is performance-based, and the certificate holder is not required to create and maintain a SMS.

While SAS and its DCTs may provide the agency with standardized performance elements for its employees, the system fails to provide appropriate certification and oversight tools for repair stations and similarly situated certificate holders. The RM element cannot be applied since part 5 does not apply to part 145. When implemented as an oversight system for repair stations, the SAS and its DCTs fail because

⁵⁰ According to AS 9100: The adoption of a quality management system is a strategic decision for an organization that can help to improve **its** overall performance and provide a sound basis for sustainable development initiatives. (Emphasis added.)

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they are (1) prescriptive, (2) cannot be successfully and efficiently scaled, and (3) include non-regulatory elements.

Conclusion

The Working Group is developing an acceptable means of compliance document that contains the information needed by both the agency and the industry. The applicant, certificate holder and agency will have one comprehensive place to find information on making the required showing and finding of compliance based on the plain language of part 145. The final recommendation will contain information on the application, continued compliance, and oversight activities. The Working Group's objectives are—

- Provide pertinent information on the application, certification process, continued compliance, and oversight of part 145 applicants and certificate holders based upon the plain language of the regulation and the safety intent expressed in rulemaking and legal documents⁵¹ so it can be applied to each unique applicant and certificate holder.
- To include valid information from previous versions of the applicable regulations for background, perspective and parameters for certification and oversight activities.
- To ensure elements or information reserved for agency personnel use do not contain any data on compliance or oversight that impinges upon the requirements or rights of an applicant or certificate holder; items such as manipulation of information and assignment of personnel are solely the purview of the federal agency but comprehensive guidance should never contain hidden “requirements” that are not supported or contained in the material made available to the public.

⁵¹ Concepts and guidance that did not change during the transition from the CARs to the 14 CFR, preambles to the notices of proposed rulemaking and final rule, generally applicable legal interpretations from the Office of Chief Counsel, administrative legal proceedings (NTSB and Administrator decisions) and federal courts.