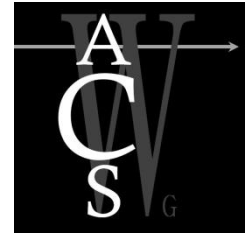


March 12, 2018

Jackie Black  
Manager Aircraft Maintenance Division  
Federal Aviation Administration  
800 Independence Ave SW  
Washington DC 20591-0001



Dear Mr. Black,

In response to your March 7, 2018 letter to the Aviation Rulemaking Advisory Committee (ARAC) Airman Certification System working group's (ACS WG) June 28, 2017 recommendation, we wish to clarify the points on which you base your claim that the recommendations are misplaced.

Your letter repeatedly references a Dec. 5, 2008 ARAC part 147 working group (WG) report<sup>1</sup> as the basis for agency decision making. With all due respect, that recommendation was made more than a decade ago, prior to the conception of the ACS. Reliance on old information to the detriment of new initiatives does a disservice to the industry and all hard-working ARAC ACS WG volunteers and agency participants. We therefore respectfully request that the agency give credence to the newer ARAC recommendation.

We also refute the contention that the agency did not receive comment to a notice of proposed rulemaking (NPRM) requesting removal of specific curriculum requirements from part 147. That recommendation is clearly on record in the rulemaking docket.<sup>2</sup>

Further, utilization of pre-ACS "recommendations from the ARAC part 147 working group report" as the basis for part 147 operations specifications, and establishment of a "maintenance training review board to discuss and provide curriculum recommendation" will unnecessarily create two standards, one for testing (via the ACS) and one for training (via the MTRB). As you point out, "collaboration and coordination between responsible offices to ensure appropriate consistency between those requirements" would be required, creating unnecessary inconsistencies, undue burdens for training organizations, and waste of government resources.

The ACS is a true collaborative effort and partnership between the FAA and industry stakeholders. The working group includes contributors from a cross-section of the

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<sup>1</sup> See Part 147 Aviation Maintenance Technician Schools Curriculum and Operating Requirements Working Group recommendation, available at [https://www.faa.gov/regulations\\_policies/rulemaking/committees/documents/media/ECamtsT1-6122007.pdf](https://www.faa.gov/regulations_policies/rulemaking/committees/documents/media/ECamtsT1-6122007.pdf)

<sup>2</sup> Aviation Technical Education Council comments state, "The council... recommends that appendices B, C and D be removed in their entirety to allow government and industry to consider the curriculum structure as a whole, via OpSpecs templates, without the need for formal rulemaking." Available at <https://www.regulations.gov/document?D=FAA-2015-3901-0072>

AVIATION RULEMAKING ADVISORY COMMITTEE  
AIRMAN CERTIFICATION SYSTEM WORKING GROUP

industry—including two representatives from the aircraft maintenance division. Current industry needs were considered in its creation, as well as all recommendations made by the 2008 ARAC part 147 WG. We are confident that the ACS will provide the necessary vehicle to ensure testing and training are correlated, while maintaining the opportunity for continued growth and development as technology and industry needs evolve.

We respectfully request more careful and meaningful consideration of the recommendations made in our June 28, 2017 letter. We stand by to provide support and expertise as needed.

Sincerely,



David Oord  
ARAC Vice-Chair  
ACSWG Chair  
Senior Director, Regulatory Affairs  
Aircraft Owners and Pilots Association



Jackie Spanitz  
AMT ACS Subgroup Co-chair  
General Manager  
Aviation Supplies & Academics, Inc.



Janeen Kochan, PhD, FRAeS  
AMT ACS Subgroup Co-chair  
Human Factors Scientist/Designated Pilot  
Examiner/Instructor Pilot  
Aviation Research, Training, and Services,  
Inc.

Attachments: FAA response to ARAC ACS WG recommendation, dated March 7, 2018  
ARAC ACS WG recommendation, dated June 28, 2017

Cc: John Duncan  
Robert Warren  
Tim Shaver  
Kevin Morgan  
Rick Domingo  
Lawrence Fields



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

800 Independence Ave., S.W.  
Washington, D.C. 20591

March 7, 2018

Mr. David Oord  
ACS WG Chair

Dear Mr. Oord:

In reference to your letter on the Aviation Rulemaking Advisory Committee's (ARAC) Airman Certification Standards (ACS) Working Group (WG) recommendations to align mechanic training and testing, the Aircraft Maintenance Division, General Aviation Branch, has reviewed your comments and provides the following discussion and response:

The ACS WG submitted four recommendations, listed below, which you state are based on the position that both the A&P mechanic training and testing standards should be contained in part 65, and that having those standards contained in part 147 as the regulations currently provide, is misplaced:

1. *Revise part 65 to provide the baseline standard for mechanic knowledge and skill requirements.*
2. *Remove any reference to curriculum requirements or subject areas from part 147.*
3. *Reference the AMT ACS in AMTS operations specifications to ensure that training and testing are directly correlated.*
4. *Utilize the ARAC Airman Certification System Working Group as the driver for changes to training requirements.*

This office recognizes that, as you stated in your letter, the minimum curriculum requirements for general, airframe and powerplant contained in part 147 (i.e. training standards) are being used to derive the knowledge and skill standards for airframe and powerplant mechanic applicants requesting certification under part 65 (i.e. testing standards).

As you are aware, this office is currently working on rulemaking for part 147. As discussed in the part 147 Notice of Proposed Rulemaking (NPRM) issued on 10/02/2015, this rulemaking is based on recommendations from the 2008 Aviation Rulemaking Advisory Committee (ARAC) Part 147 Working Group Report, and finalized based on comments received during the NPRM comment period. The comment period closed on February 1, 2016. The ACS WG recommendations 1 & 2 were not part of the ARAC recommendations and no similar comments were received during the comment period. Therefore, those recommendations cannot be considered in the current part 147 rulemaking process. The ACS WG recommendations 1 and 2 could be considered in future rulemaking efforts.

The ACS WG concerns relating to recommendations 3 & 4 are being addressed by the following proposals associated with the current rulemaking project:

- Minimum course content (previously in the part 147 appendices), and associated teaching levels will be contained in the part 147 Operations Specifications (OpSpecs) issued to each Aviation Maintenance Technician School (AMTS). An AMTS will be able to teach additional course content with FAA approval.
- The initial minimum course content items that the NPRM proposes to be placed in the OpSpecs are derived from recommendations from the ARAC Part 147 Working Group Report.
- The FAA plans to establish a Maintenance Training Review Board (MTRB) Aviation Rulemaking Committee (ARC) that would commence two years after the effective date of the part 147 final rule. The MTRB ARC will discuss and provide curriculum recommendations to the FAA every two years.

The above proposals were based on recommendations by the ARAC Part 147 working group to facilitate revision of part 147 minimum training requirements both in a timely manner, and based on evolving technology and industry needs. We recognize that alignment of the minimum training curriculum outlined in the OpSpecs, with any testing standards developed by the ACS WG, will require collaboration and coordination between responsible offices to ensure appropriate consistency between those requirements.

In summary, we appreciate the recommendations the ACS Working Group has provided. Unfortunately, the recommendations can not be considered for the part 147 rulemaking that is currently in progress as they are out of scope of the already proposed rule change. However, the recommendations could be taken into consideration during future rulemaking efforts, particularly with part 65. We advise that a petition for rulemaking under part 11 be submitted for any potential rulemaking recommendations.

We appreciate the opportunity to assist you. If you have any additional questions regarding this letter, please contact the Aircraft Maintenance Division at (202) 267-1675.

Sincerely,



Jackie L. Black  
Manager, Aircraft Maintenance Division

June 28, 2017

Mr. Kevin Morgan, Supervisory Aviation Safety Inspector  
Flight Standards Service, General Aviation Branch, Aircraft Maintenance Division (AFS-350)  
Federal Aviation Administration  
800 Independence Ave SW  
Washington DC 20591-0001  
[kevin.morgan@faa.gov](mailto:kevin.morgan@faa.gov)



Dear Mr. Morgan,

The Aviation Rulemaking Advisory Committee's (ARAC) Airman Certification System Working Group submits for Federal Aviation Administration's (FAA) consideration, recommendations to align training regulation and guidance with the airman testing standards.

The ARAC working group was tasked with developing recommended testing standards, training guidance, test management, and reference materials for the aircraft mechanic certificate with airframe and powerplant (A&P) ratings. The Aviation Maintenance Technician (AMT) Airman Certification Standards (ACS) will replace current practical test standards (PTS), and clearly define minimum knowledge, risk management and skill requirements for A&P mechanics. Once completed, it will provide the framework for the Knowledge Exam (written), oral and practical mechanic tests; and subsequently, a guide for revising handbooks, oral questions, practical projects and the knowledge test bank.

As you know, 14 Code of Federal Regulations (CFR) part 147 governs certification requirements for aviation maintenance technician schools (AMTS). Completion of an AMTS program is one way to satisfy experience requirements for an A&P certificate (see [§ 65.77](#)). In the absence of a comprehensive testing standard, training standards (i.e., curriculum requirements) provided in part 147 has effectively provided the framework for the skill and knowledge required of an A&P mechanic. While we understand and appreciate how we got to this point, it is the working group's opinion that the standard is misplaced.

Title 14 CFR part 65 sets forth the knowledge, experience and skill requirements for a mechanic certificate (see [§65.75](#), [§65.77](#) and [§65.79](#)). Requisite knowledge and skill is verified through written, oral and practical tests (see [§65.75\(b\)](#) and [§65.79](#)). The AMT ACS is the guidance that sets forth specifics on what a candidate must know, consider and do to successfully pass those tests. Part 65 is therefore the impetus for testing *and* training. In contrast, part 147 should be reserved for dictating AMTS certification and operating requirements, not mechanic knowledge and skill standards.

The working group therefore makes the following recommendations:

- 1. Revise part 65 to provide the baseline standard for mechanic knowledge and skill requirements**

Incorporating general knowledge and skill elements in part 65 would ensure that testing and training standards fall directly out of the regulation.

Until formal rulemaking can take place, the AMT ACS would provide the requisite specificity. The standard would be “enforceable” through part 65, which requires applicants to pass an agency-developed and -controlled mechanic test.

**2. Remove any reference to curriculum requirements or subject areas from part 147**

As stated above, part 65 is the impetus for testing *and* training. The inclusion of required curriculum or subject headings in part 147 creates a separate, inflexible, and inconsistent standard that training organizations will be forced to reconcile for decades to come.

**3. Reference the AMT ACS in AMTS operations specifications to ensure that training and testing are directly correlated**

Utilizing the AMT ACS as the basis for curriculum ensures that the agency can enforce AMTS adherence to the standard, requires schools to adjust their curriculum as mechanic knowledge and skill requirements evolve, and utilizes less government resources to maintain and update separate training specifications.

If the agency elects to dictate any specific curriculum requirements through the part 147 operation specification, it should directly mirror the subject areas provided for in the AMT ACS (see attachment 1). The agency should also ensure there is a mechanism available to update AMTS operations specifications as the AMT ACS periodically evolves.

**4. Utilize the ARAC Airman Certification System Working Group as the driver for changes to training requirements**

The working group will periodically review and update the AMT ACS to ensure it is in line with mechanic knowledge and skill requirements as technology evolves. The working group would therefore be the vehicle to ensure that training and testing keeps up with ever-evolving safety considerations.

We thank you for your consideration of these recommendations and stand by to provide support and expertise as needed.

Sincerely,



David Oord, ACSWG Chair  
Senior Director, Regulatory Affairs  
Aircraft Owners and Pilots Association



Jackie Spanitz, AMT ACS Subgroup Co-chair  
Curriculum Director  
Aviation Supplies & Academics, Inc.



Janeen Kochan, PhD, FRAeS, AMT ACS Subgroup Co-chair  
Human Factors Scientist/Designated Pilot  
Examiner/Instructor Pilot  
Aviation Research, Training, and Services, Inc.

Attachment 1 AMT ACS subjects

cc: [robert.w.warren@faa.gov](mailto:robert.w.warren@faa.gov)  
[tim.shaver@faa.gov](mailto:tim.shaver@faa.gov)  
[john.s.duncan@faa.gov](mailto:john.s.duncan@faa.gov)

## Attachment 1 AMT ACS (FAA-S-ACS-1) Subjects

### General

Fundamentals of Electricity and Electronics  
Aircraft Drawings  
Weight and Balance  
Fluid Lines and Fittings  
Aircraft Materials, Hardware, and Processes  
Ground Operations and Servicing  
Cleaning and Corrosion Control  
Mathematics  
Regulations, Maintenance Forms, Records, and Publications  
Physics for Aviation  
Inspection Concepts and Techniques  
Human Factors

### Airframe Structures

Metallic Structures  
Non-Metallic Structures  
Aircraft Finishes  
Flight Controls  
Airframe Inspection

### Airframe Systems

Landing Gear Systems  
Hydraulic and Pneumatic Systems  
Environmental Systems  
Aircraft Instrument Systems  
Communication and Navigation Systems  
Aircraft Fuel Systems  
Aircraft Electrical Systems  
Ice and Rain Control Systems  
Airframe Fire Protection Systems  
Rotorcraft Fundamentals

### Powerplant Theory and Maintenance

Reciprocating Engines  
Turbine Engines  
Engine Inspection

### Powerplant Systems and Components

Engine Instrument Systems  
Engine Fire Protection Systems  
Engine Electrical Systems  
Lubrication Systems  
Ignition and Starting Systems  
Fuel Metering Systems  
Engine Fuel Systems  
Engine Induction Systems  
Engine Cooling Systems  
Engine Exhaust and Reverser Systems  
Propellers

