



U.S. Department  
of Transportation

**Federal Aviation  
Administration**

# Memorandum

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Subject: **ACTION**: AIR-100 Policy Memorandum #2001-01, Use of Designated Engineering Representatives in the Technical Standard Order Authorization Process Date: APR 16 2001

From: Manager, Aircraft Engineering Division, AIR-100 Reply to Attn. of:

To: All Aircraft Certification Offices

**Reference:** FAA Order 8150.1A Technical Standard Order Procedures and 8110.37C Designated Engineering Representative (DER) Guidance Handbook

This memorandum prescribes new Aircraft Certification Service policy addressing use of Designated Engineering Representatives (DERs) in the Technical Standard Order (TSO) authorization process. This policy relaxes some of the restrictions previously placed on DER use by the referenced orders. Specifically, this policy allows DERs with the delegation of "Software Approval" to be authorized to approve specific technical data in support of a manufacturer's request for Technical Standard Order authorization (TSOA). This will assist ACOs in issuing the TSOA when software is part of the TSO article. This policy applies immediately to all ACOs and eligible DERs (DERs with a delegation of software approval). The contents of this Policy Memo will be incorporated in future revisions to Orders 8150.1, 8110.37, and 8100.8 Designee Management Handbook.

When processing an application for TSOA the FAA can make a finding of conformance to the TSO based solely on the submittal of the documents specified in 14 CFR § 21.605(a) and a determination of the manufacturer's ability to produce duplicate articles. The FAA also has discretion in its level of review when making the finding of conformance to the TSO.

Previous concerns about the use of DERs in the TSOA process were based on the legal authority extended to the DER under Title 49 and 14 CFR part 183. Title 49 U.S.C. § 44702(d)(1)(A) allows the FAA Administrator to delegate a matter related to the examination, testing, and inspection necessary to issue a certificate. While a TSO is not a certificate, it has little value unless the intent is to install it on a type certificated product. A TSO is a standard that ultimately supports the issuance of a Type Certificate (TC), amended TC, Supplemental Type Certificate (STC) or amended STC. Based on this reasoning,

allowing the use of DERs in the TSOA process meets the requirements of 49 U.S.C. § 44702(d)(1).

In order for a DER to be utilized in the TSOA process the DER must first be granted the special delegation to make findings of compliance in support of 14 CFR, § 21.601(b)(2). This special delegation will be identified in the DER's authority as "TSO Software". This special delegation should be granted by the DER's appointing ACO as part of the DER's letter of authorization. The Designee Information Network (DIN) will be modified in the near future to add "TSO Software Approval" as a special delegation that can be authorized to DERs with the delegation of "Software Approval". In the interim, offices can use the "Limitations" text field for this special function until it can be added to the "Special Functions" list.

The decision to allow the use of DERs to approve software data on behalf of a TSO applicant is up to the project ACO. If an applicant desires to use a DER to approve data, the DER should be identified early in the project so that the ACO can decide if they will accept DER approved data. The ACO will also determine the suitability of the proposed DER, and identify the specific data that can be DER approved for the project and data that will be reserved for ACO approval.

The DER's data approval capability in support of TSOA will be limited to findings of compliance to RTCA Document DO-178(), "*Software Considerations in Airborne Systems and Equipment Certification*", when software is incorporated in the article concerned. Compliance with DO-178() will be shown on FAA form 8110-3. The purpose of data block will state "In support of authorization TSO CXXX authorization". The applicable requirements block would include the statement "In support of 14 CFR § 21.601(b)(2) and RTCA DO-178()". The authorized DER should also add "TSO Software" to the Classification(s) block in addition to their DER type (see the example in attachment 1).

Installation concerns for any TSO'd article will still need to be addressed by the TC, STC, or amended TC applicant; however, under most circumstances, the DO-178() data will not require re-evaluation unless there is some installation-specific issue to be addressed by the DO-178() data.

This expanded use of the designee system is intended to increase the ACO's confidence in the applicant's design submittal, thus reducing the review time necessary for granting a TSOA. An evaluation of the effectiveness of this program will be made in order to determine if the program should continue or be expanded to other TSO aspects beyond software.

For more information on this Policy Memo, contact Kevin Kendall, AFS-610, 405-954-7074.

  
James C. Jones

**Attachment 1**

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION <b>STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS</b>			DATE May 25, 2001
<b>AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION</b>			
MAKE Smithson	MODEL NO. 401	TYPE (Airplane, Radio, Helicopter, etc.) GPS	NAME OF APPLICANT Smithson Avionics
<b>LIST OF DATA</b>			
IDENTIFICATION	TITLE		
SAC 18001 Rev. C	Compliance Matrix (reference DO 178B Annex A)		
SAC 18002 Rev. D	Software Development Plan (re: DO 178B Paragraph 11.2)		
SAC 18003 Rev. A	Software Verification Plan (re: DO 178B Paragraph 11.3)		
SAC 18004 Rev. A	Software Quality Assurance Plan (re: DO 178B Paragraph 8.0, 11.5)		
SAC 18005 Rev. A	Software Configuration Management Plan (re: DO 178B Paragraph 7.0, 11.4)		
PURPOSE OF DATA In support of TSO C129 authorization			
APPLICABLE REQUIREMENTS (List specific sections) In support of 14 CFR § 21.601(b)(2) and RTCA DO-178B			
CERTIFICATION - Under authority vested by direction of the Administrator and in accordance with conditions and limitations of appointment under Part 183 of the Federal Aviation Regulations, data listed above and on attached sheets numbered _____ have been examined in accordance with established procedures and found to comply with applicable requirements of the Federal Aviation Regulations. <div style="text-align: right;"> <input type="checkbox"/> Recommend approval of these data                 </div> ‡ (We) Therefore <input checked="" type="checkbox"/> Approve these data			
SIGNATURE(S) OF DESIGNATED ENGINEERING REPRESENTATIVE(S)		DESIGNATION NUMBER(S)	CLASSIFICATION(S)
<b>James Bullock</b> James		DERY-123456-NM	SYSTEMS & EQUIPMENT, TSO Software