DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE LIFE CYCLE MANAGEMENT CENTER
WRIGHT-PATTERSON AIR FORCE BASE OHIO

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AIRWORTHINESS CIRCULAR

Airworthiness Approvals for Aeromedical Evacuation Equipment

PURPOSE:
This Airworthiness Circular (AC) provides guidance for reviewing and approving aeromedical equipment for use on aircraft.

SCOPE:
Applicable to all United States Air Force (USAF) aircraft with an aeromedical evacuation mission.

REFERENCED DOCUMENTS:
1. AFMAN 10-2909, *Aeromedical Evacuation (AE) Equipment Standards*
2. AFLCMC/WNU OI, *Operating Instruction for Safe-to-Fly Recommendation*
3. Joint En Route Care Equipment Test Standard (JECETS)
4. AC-19-05, *Alternate AW Product Format for Non-reportable Modifications*

ATTACHMENT:
Aeromedical Evacuation (AE) Equipment Certification Basis Template

BACKGROUND:
Aeromedical equipment is any portable medical equipment that is carried on an aircraft, required to be operated during flight, and not installed as aircraft components or cargo. Aeromedical evacuation is an essential mission, but the equipment used may pose a risk to aircraft safety if not evaluated against Airworthiness (AW) requirements. The aircraft environment may also affect the function of the aeromedical equipment, but that is outside the scope of the AW review process. Additionally, this circular does not cover stanchions and litters (whether attached or integrated) or "roll-on, roll-off" systems.

Per AFMAN 10-2909, *Aeromedical Evacuation (AE) Equipment Standards*, the Air Mobility Command, Surgeon General Medical Logistics Readiness Branch (AMC/SGXM) is the Air Force AE medical equipment program manager for all AE items. They are the gatekeeper for all AE items to be evaluated by the Human Systems Program Office's (AFLCMC/WNU) Aeromedical Test Laboratory (ATL). WNU's *Operating Instruction for the Safe-to-Fly Recommendation* ("StF OI") defines the process by which ATL project engineers evaluate items intended for in-flight assessments, operational demonstrations, and operational use. WNU and the Army Aeromedical Research Laboratory maintain the Joint En Route Care Equipment Test Standard (JECETS) as a collection of test procedures used to evaluate aeromedical equipment. Upon completion of lab testing, WNU provides an interim StF Recommendation letter summarizing the results and detailing any restrictions or limitations for conducting an in-flight assessment to the Chief Engineer(s) (CE) responsible for aircraft airworthiness. Once the in-

flight assessment is complete, WNU provides a final StF Recommendation letter to the requesting Command(s) and respective aircraft program offices.

It is important to note that StF Recommendation letters are not AW approvals.

DISCUSSION:
Aircraft CEs are ultimately responsible for ensuring AW is maintained on their respective aircraft. They are required to follow AW processes as outlined in AFI 62-601 and Technical Airworthiness Authority (TAA) issued publications. When use of new or modified aeromedical equipment is determined to be non-reportable by the Director of Engineering (DOE)-level Delegated Technical Authority (DTA), then the CE-level and DOE-level DTAs can approve AW documents in accordance with their delegated authority.

When documenting relatedness and reportability in the Airworthiness Determination Form (ADF), the aircraft CE should consider all AW-related technical information about the item under review.

- If the CE-level DTA determines the new or modified item is not related to AW, a new AW approval (i.e., Military Type Certificate or Military Flight Release) is not required for the associated flight activity.[1] Note: The CE may have additional Operational Safety, Suitability and Effectiveness requirements to satisfy prior to developmental test or fielding.
- If the CE-level DTA determines the new or modified item is related to AW, reportability must then be determined. If component-level testing has been completed prior to receiving the new item request, CEs may consider any MIL-HDBK-516 compliance findings when making reportability determinations.[2] However, potential system-level effects associated with the installation, interfaces, and usage of the item must also be considered.
- DTAs may use a single ADF to establish boundary conditions and limitations for specific categories of aeromedical equipment to determine relatedness and/or reportability. DTAs should consult the appropriate technical expert in AFLCMC/EZ when assessing these broad determinations of relatedness and reportability.

New or modified aeromedical equipment may be requested by the warfighter on a frequent basis. The following guidance may be helpful when documenting AW assessments and approvals for aeromedical equipment:

- The TAA has conducted a review of the JECETS and MIL-HDBK-516 standards and test methods. Attachment 1 provides a template list of applicable criteria and notes where JECETS requirements meet equivalent AW standards. WNU test reports and StF Recommendation letters may be referenced as compliance artifacts, but may not always suffice to show full compliance against the certification basis (i.e., lack of system-level analysis and verification).
- Due to the limited scope and verification activities associated with approving aeromedical

[1] For example, an item may be non-electronic and stored in a container during critical phases of flight. A CE-DTA might determine that use of this item is not related to AW.
[2] For example, a device that has previously passed MIL-STD-461 EMI/EMC component level testing might be considered a lower EMI/EMC risk to the aircraft than one that has not successfully shown compliance to the standard.

equipment, documenting AW assessments for aeromedical equipment may be satisfied by following AC-19-05, *Alternate AW Product Format for Non-reportable Modifications*.

- Once approved by the aircraft DTA, items and any limitations are added to the AE Medical Equipment Compendium and StF Matrix managed by AMC/SGXM and WNU. These lists contain all approved items for each aircraft. When these lists are referenced in an existing AW approval (i.e. MTC or MFR), a new AW approval is not required for each new aeromedical equipment item added to the list.
- If the DTA chooses to issue an AW approval of a specific item for operational use, no expiration date is required.

POINT OF CONTACT:
Comments or questions should be sent to USAF.Airworthiness.Office@us.af.mil.

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