



EASA
European Aviation Safety Agency

Operational Suitability Data Requirements for Master Minimum equipment List

EASA STC Workshop –24/25 May 2016, Cologne

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AGENDA

-  **Part 1**
Requirements for STC MMEL
-  **Part 2**
STC MMEL development and approval process



- Two kind of STC MMEL needs
 - “Nice to have”; relief for operational flexibility at operator level
 - Not required; voluntary request from STCH
 - Can be treated as a stand-alone MMEL change, separately from the design change, after the entry into service of the aircraft
 - Example: CCTV installation for cockpit door security



- Two kind of STC MMEL needs
 - “Must have”; necessary change to A/C MMEL invalidated by STC
 - Required by Part 21, 21.A.113 (b)
 - Must be made available before the data must be used by an EU operator
 - Example: photo luminescent emergency foot path marking system requiring more restrictive relief on cabin lights for charging purpose



Part 1- Requirements for STC MMEL

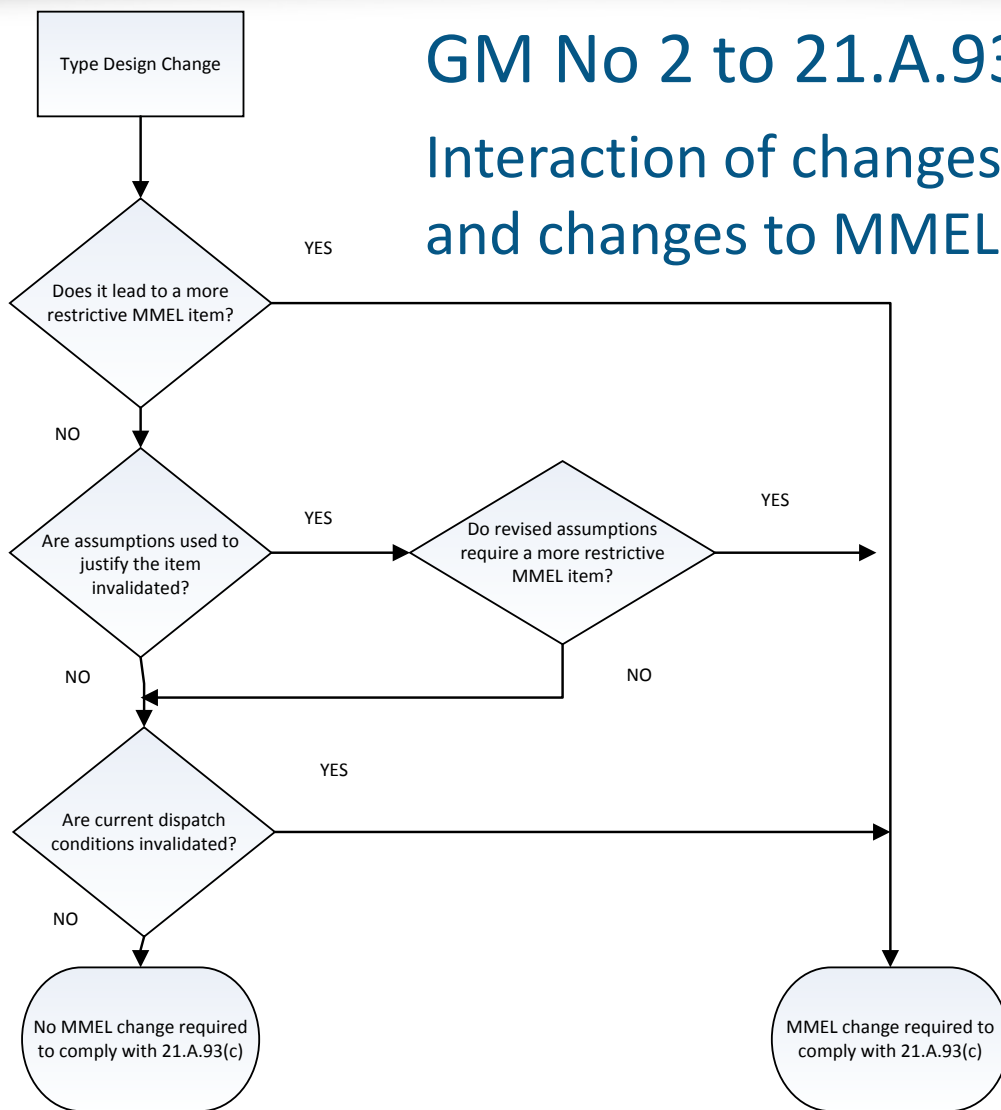
- “Must have” changes to MMEL shall be identified by:
 - Adequate review of existing OSD MMEL content (Ref. EASA TCDS)
 - Potential need to review associated substantiations from the TCH (complex or interconnected systems)
 - Not applicable if no OSD MMEL exists



Part 1- Requirements for STC MMEL

GM No 2 to 21.A.93(c)

Interaction of changes to the type design and changes to MMEL





Part 1- Requirements for STC MMEL

- For both “Must have” and “Nice to have” changes to MMEL STCH shall:
 - Determine applicable certification specification for the change
 - Latest CS if linked to significant design change and OSD change classified Major, unless exceptions of 21.A.101(b)(3) applied
- Demonstrate compliance to OSD Certification Basis
 - Level of substantiation proportional to criticality of system functions and applicable requirements
 - As per methods agreed with the Agency CS MMEL 145(b)





Part 2- STC MMEL development and approval process

➤ MMEL Development Methodology

➤ Means of compliance to CS-MMEL/JAR-MMEL

“an acceptable level of safety as intended by the applicable requirements is maintained”

“The inclusion of each item in the MMEL is justified following one or more methods as agreed with the Agency.”

➤ **Performance based CS:** what is acceptable shall be defined in the MoC

➤ The Methodology is an essential aspect of the OSD MMEL has it defines substantiation content/format



Part 2- STC MMEL development and approval process

➤ MMEL Development Methodology

- CS MMEL.145 (c)(1) *Consequences of the item failure: **Fail/pass** criteria needed*
- CS MMEL.145 (c)(2) *Consequences of the next worst failure/event: Not HAZ or CAT except if supported by quantitative assessment :**Fail/pass** criteria needed*
- CS MMEL.145 (d) *Quantitative assessment for items in minimal cut sets level 2 to HAZ or level 3 to CAT: **Fail/pass** criteria to be defined (based on ARAC ASAWG GM)*



Part 2- STC MMEL development and approval process

➤ MMEL Development Methodology

- May be project specific or defined at organisation level in DOA Handbook procedures
- May be determined through an arrangement with the type-certificate holder
- Account for STC functions and integration in the A/C
- Justifications may be limited to only demonstrating the non-safety related nature of the item (GM1 MMEL.145 (d))



Part 2- STC MMEL development and approval process

➤ ORO.MLR.105 (a) requires EU operators to:

- Base their new MELs on OSD MMEL available directly from the (S)Type Certificate Holder.

Note: *The MMELs status is no longer published on the EASA website. Data has to be made available by (S)TC Holders as per 21.A.62/108/120B*

- Update their MEL as per OSD MMEL at the earliest opportunity and not later than 18 December 2017 or 2 years after the OSD was approved, whichever is the latest.



Part 2- STC MMEL development and approval process

- Pre-OSD approved STC MMEL supplements
 - No dedicated grandfathering provisions in (EU) 69/2014
 - Upon request, catch-up exercise may be conducted resulting in updating STC certificate to list MMEL supplement references



Conclusion

- With MMEL in OSD we have now:
 - Approval process comparable to Type Design Certification
 - Clearer sharing of duties and responsibilities between Agency and (S)TC Holders
 - Requirements for MMEL necessary changes
 - A tool for adapting EASA level of involvement
 - Allow privileges for DOA holders for MMEL minor changes approval



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