

Contrails

SECTION IX

WORKING SESSIONS ON FUTURE DIRECTIONS AND THE MIL-PRIME-STD

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WORKING SESSION
THE MIL-PRIME-STD, CONTENTS AND PHILOSOPHY
MODERATOR: David J. Moorhouse

In format this working session was quite unstructured. Typically, a comment from one member of the group would initiate comments from other members. With such a philosophical subject, a consensus of opinion was rarely achieved before moving to a new subject. The following is a summary of these discussions.

A brief initial discussion confirmed the opposition to the proposed method of accounting for the effects of atmospheric disturbances. A possibility would be to put similar requirements in 3.1.10 (Application of Levels) rather than 1.5 (Levels of Flying Qualities); Chalk of Calspan suggests this in a written comment. It was generally agreed that these effects need to be taken into account, but there was no obvious or unanimous choice of how to do it. It was also unanimous that the intent of the revisions should be made clear and to do that a revision of the methods of compliance is needed. The major problem appeared to be the requirement to handle severe disturbance (even though thunderstorm turbulence is currently specified in MIL-F-8785B). A suggestion by Chalk appeared to receive favorable reaction - the numerical requirements should apply only in light and moderate disturbances. The topic ended with a concession that the proposals would be reconsidered.

In discussion of the philosophy of the Prime-Standard, Carlson (Boeing) reiterated his suggestion to organize the Handbook to facilitate the design process. The desirability of feeding back SPO information to the Handbook was raised. This led to the suggestion that this feedback process should be formalized for each procurement.

In discussing items that would be candidates for special consideration and revision in the Prime-Standard it was easy to produce a "shopping list":

- higher order systems
- lateral-directional requirements in general
- methods of compliance
- Flight Phase Categories
- position control vs precision control
- etc., etc.

These items were discussed in varying amounts of detail but the consensus again seemed to be that much work is needed, the answers are not available at present. Again, the philosophy of the specification was discussed, particularly the question of specifying what is required directly instead of indirectly. As an example, if the short-period modal requirements are to ensure acceptable flight path control, then the suggestion is to formulate requirements directly on flight path control. It was noted that prototype programs (the YF-16 and YC-14 were specifically mentioned in the discussion) used a brief performance specification with no flying qualities requirements. Questions were resolved with the SPO engineers as they arose during the

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program. On the other hand, an extreme performance requirement such as "putting a certain percentage of bullets in the target on the first pass" would be a problem from design and compliance aspects. It was obvious that defining and achieving acceptable flying qualities of a new airplane system will remain a cooperative effort between the contractor and the government.