



FEDERAL AVIATION ADMINISTRATION  
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From: General Aviation Human Factors Program Manager, AAR-100  
To: General Aviation Human Factors TCRG, (POC: Robert Wright, AFS-800)

Subj: FAA/Industry Training Standards (FITS) Execution Plan

Ref: (a) FY03 GA TCRG "pop-up" requirement

1. Requirement Background: Through the FITS (FAA/Industry Training Standards) program the FAA seeks to be more responsive to the rapid change in aviation technology occurring within the field of general aviation. These technological changes include the availability of multifunction displays, use of GPS (Global Positioning Systems) for navigation, real time displays of flight path (e.g. highway in the sky) and weather information. Many of these technologies will be offered as part of new integrated avionics suites on new lower cost jet aircraft. These technologies will likely require the development of new pilot training programs not only for initial, transition and recurrent training but also to train pilots in the use of a specific avionics package/suite. The FAA hopes to achieve these goals while also reducing the time and cost of flight training. This execution plan outlines a year long project that will review the goals and purpose of the FITS program, and the existing research supporting the program objectives with the specific aim of identifying future research needs that may help make the FITS objectives a reality. The execution plan including proposed tasks, deliverables, and schedule are outlined below.
2. The one year project will be executed
  - i. Review the objectives, plans and organization of the FITS program.
  - ii. Review findings of government funded research pertinent to the objectives of FITS including reports on the effectiveness of new displays including the integrated Highway-in-the-sky (HiTS) primary flight display, and new training methods including the use of personal computers to meet recency experience requirements. This will include but is not limited to a review of published technical reports from various research projects supported under the AGATE, SATS and CGAR programs.

- iii. Review of research findings published in the academic literature that may be pertinent to goals/objectives of FITS. This may include investigations evaluating the effectiveness of different training techniques including computer-based training, integrated private/instrument curriculum, comparisons of knowledge based testing versus scenario based training and testing, and human factors evaluations of the effectiveness of new displays including MFD's.
- iv. Review the goals of the FITS program with flight training schools, aircraft and avionics manufacturers. The goal of this task is to document what these groups believe are the major obstacles (training, regulatory and technical issues) to fielding these new technologies. This will ensure that future research programs address these potentially critical issues.
- v. Quarterly (December, March, June, September) research progress status reports: Informal e-mail reports from the program manager aviation maintenance human factors to Robert Wright (General Aviation Human Factors TCRG representative).
- vi. Annual Report: Grantee will submit an annual report using AAR-100's Productivity Report website <http://www.hf.faa.gov/report/>

### 3. Deliverables:

- i. Review of research literature pertinent to FITS objectives.
- ii. Summary of major obstacles identified by flight training schools, aircraft and avionics manufacturers to fielding FITS related technology.
- iii. Report identify the future research needs to support the objectives of the FITS program.
- iv. Quarterly research progress reports.

### 4. Schedule:

Project time line (1 year duration)

- Month 1-2: Review of FITS objectives, plans and organization.
- Month 1-6: Identifying and Reviewing Technical reports from FITS related research supported by various government agencies (FAA, NASA (SATS, AGATE, CGAR).
- Month 3-12: Identify and review the academic research literature for findings relevant to the goals of the FITS program.

- Month 6-9: Conduct interviews with aircraft flight training schools and aircraft avionics and airframe manufacturers.
- Month 10-12: Prepare final technical report.

William K. Krebs