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From: Dr. William K. Krebs, (AAR-100), Aviation Maintenance Human Factors  
Program Manager

To: Les Vipond (AFS-300)

Subj: An Evaluation of Broadband Applications to Aircraft Maintenance Safety  
Execution Plan

Ref: (a) Airworthiness TCRG March 5-6, 2002 meeting minutes  
(b) Aviation maintenance requirement entitled "Evaluation of Broadband  
Applications to Aircraft Maintenance Safety"

- 1) Per reference (a), the Airworthiness TCRG ranked the "Evaluation of Broadband Applications to Aircraft Maintenance Safety" (ref: b) number three as the FY02 aviation maintenance human factors priority. The requirement's objective is to "determine the extent to which human-centered design contributes to the successful application of emerging technologies that include, but are not limited to: training-on-demand, video-on demand, wireless access to technical documentation and much more. This research shall review the emerging technologies to the extent to which such technologies are impacting safety."
- 2) The project will be executed as follows:

Phase I tasks:

- i. Comprehensive literature bibliography
- ii. Identify maintenance and third party repair facilities located across the country to be used in the data collection
- iii. Develop and administer survey on how maintenance personnel use maintenance data, i.e. how much and which types of information are electronic?
- iv. Create a matrix that identifies the types of broadband technologies used by maintenance and third party repair facilities

- v. Defined milestones (if possible, milestones will be determined)
  - Note: a grantee is not responsible to adhere to defined milestones.
- vi. Quarterly (December, March, July, and September) research progress status reports
  - Informal e-mail reports from the AAR-100 aviation maintenance human factors program manager to Les Vipond (AFS-300)
- vii. FY03 annual report summarizing year's activities by grantee. This annual report including other human factors aviation maintenance projects sponsored by AFS-300 will be electronically submitted to AFS-300.
  - Grantee will submit an annual report using AAR-100's Productivity Report website (<http://www.hf.faa.gov/report/>) to the AAR-100 aviation maintenance human factors program manager.

Phase II tasks:

- i. Determine whether digitizing maintenance data (manuals, work cards, inspection information, and/or procedures for sign off) affects maintenance performance
- ii. Analyze survey
- iii. Defined milestones (if possible, milestones will be determined)
  - Note: a grantee is not responsible to adhere to defined milestones.
- iv. Quarterly (December, March, July, and September) research progress status reports
  - informal e-mail reports from the program manager aviation maintenance human factors to Les Vipond
- v. FY04 annual report summarizing year's activities by grantee. This annual report including other human factors aviation maintenance projects sponsored by AFS-300 will be electronically submitted to AFS-300.
  - Grantee will submit an annual report to the AAR-100 aviation maintenance human factors program manager using AAR-100's Productivity Report website (<http://www.hf.faa.gov/report/>)

Phase III tasks:

- i. Develop a set of design guidelines for electronic maintenance data to be used in maintenance facilities.
- ii. Defined milestones (if possible, milestones will be determined)
  - Note: a grantee is not responsible to adhere to defined milestones.

- iii. Quarterly (December, March, July, and September) research progress status reports
  - informal e-mail reports from the program manager aviation maintenance human factors to Les Vipond
- iv. FY05 annual report summarizing year's activities by grantee. This annual report including other human factors aviation maintenance projects sponsored by AFS-300 will be electronically submitted to AFS-300.
  - Grantee will submit an annual report to the AAR-100 aviation maintenance human factors program manager using AAR-100's Productivity Report website (<http://www.hf.faa.gov/report/>)

Deliverables:

- i. Final report containing
  - Summarize the different types of broadband applications currently used in maintenance facilities and third party repair stations.
  - Identify broadband applications that may adversely affect maintenance personnel performance.
  - Provide an understanding of how broadband technology may aid maintenance personnel tasks and work environment.
- ii. Final Report formatted to permit development of appropriate guidance material by AFS-300
  - AFS-300 is responsible in submitting defined format to the program manager for aviation maintenance human factors by January 2005.

Schedule:

Phase I Tasks: FY02/FY03  
Phase II Tasks: FY04  
Phase III Tasks: FY05  
Final Report: FY05 (September 2005)