

**Maintenance
Joint Safety Implementation Team
as Modified by JIMDAT**

**Implementation Plan
For
Safety Enhancement -169R1
Policy & Procedures – Work Cards / Shift Change / Responsibilities / Manuals**

Statement of Work: (SE-169R1)

To reduce the number of fatal accidents related to improper or incomplete maintenance, airlines, operators and regulators should ensure that: (1) work cards, if available, are used at the start of each task, with written and oral status reports at every shift change; (2) procedures are written to include clear responsibility and authority for work assignments; and (3) necessary manuals (operational & maintenance) are complete, accurate, available and appropriately used. (225, 883, 884, 885 & 886)

Lead Organization for Overall Safety Enhancement Completion (LOOSEC):

FAA (AFS-300)

Safety Enhancement:

Ensure that work cards or other written instructions are used at the start of each task, and written and oral status reports are provided at every shift change. Procedures should be written to include clear responsibility and authority for work assignments, and necessary manuals (operational & maintenance) are complete, accurate, available, and appropriately used.

JIMDAT Score:

DIP Stand Alone Fatality Risk Reduction::
2020 - (2.34) 100% - (2.51)

Differential beyond original 46 SE CAST plan:
2020 - (0.70) 100% - (0.75)

Total Resource Requirements:

- Output 1 – estimated at 0.5 man-years
- Output 2 – estimated at 2.7 man-years
- Output 3 – estimated at 0.5 man-years
- Total Cost - \$740,000

Completion Date: 36 months

Output 1:

FAA to publish guidance materials on acceptable procedures and policies, or enhance AC120-16D. Materials should address procedural enhancements that incorporate clear responsibility and authority and manual enhancements that ensure they are complete and accurate. Materials should also address policies and training that support the appropriate use of work cards, shift change status reports, operations and maintenance manuals.

Resources:

FAA AFS-300 (LOOC) and Operators (ATA, RAA, NACA, etc.) The resource cost of this output would be mostly the individual's time from each organization involved. Initial resource estimates would be for approximately 8 people working over a 3-week period (0.5 man-years).

Timeline:

24 months

Actions:

FAA (AFS-300) convene task force to review all applicable information, determine scope of changes and involved personnel, decide best vehicle(s) for guidance materials (new AC or enhancing AC120-16D), write the guidance, and obtain appropriate approvals. FAA (AFS-300) will also issue a Handbook Bulletin to Principal Inspectors to alert the PI's that this new guidance exists and to direct them to provide the guidance to their operators.

Output 2:

Operators to audit their compliance with guidance materials and implement changes where needed, including both procedural content and procedural use. Successful implementation of procedural enhancements may additionally require changes to associated company policies and philosophy, and a sound organizational commitment to safety culture (see SE 17).

Resources:

ATA (LOOC). The cost of this output would be mostly the operators' audit time and subsequent correction activities for their manual system; from each of the approximately 140 operators involved. Initial resource estimates could range from one-man-day for some operators to man-month for other operators (averaging about one man-week per each of the 140 operators; 2.7 man-years).

Timeline:

12 months after completion of Output 1.

Actions:

1. Operators should review the guidance material in an appropriate and timely manner to establish their level of alignment with the material.
2. Each operator's Director of Safety, in conjunction with its Director of Maintenance, should ensure that the guidance is properly reviewed and that appropriate changes are made to the company's maintenance procedures.
3. Each operator will prepare an alignment report.

Relationship to Current Aviation Community Initiatives

- CPS Subcommittee 2b – Maintenance Human Factors
- NTSB Safety Recommendations??
- NASA or FAA Research?

Impact on Non - Part 121 or International Applications:

All operators can benefit from improving procedures and policies that lead to

improper or incomplete maintenance. This Safety Enhancement seeks to mitigate the effects of procedural errors and procedural non-compliance in several known problem areas: the use of work cards and shift change status reports, the explicit inclusion of responsibility and authority for work assignments in procedures; the changes required to ensure that necessary manuals (operational & maintenance) are complete, accurate, available and appropriately used. The development of guidance materials that promote these procedural improvements do not directly affect Non-Part 121 and International requirements, but can be used as a model for such improvements because each operator performs their own audit with respect to the new guidance materials in Output 2. Based on their specific individual needs, appropriate changes and enhancements can be made. Similarly the development of regulatory audit procedures (Output 3) can be tailored to specific organizational, operational and country requirements.