

FAA
WG Report Format
Harmonization and New Projects

1 - BACKGROUND:

- *This section “tells the story.”*
- *It should include all the information necessary to provide context for the planned action. Only include information that is helpful in understanding the proposal -- no extraneous information (e.g., no “day-by-day” description of Working Group’s activities).*
- *It should provide an answer for all of the following questions:*

a. SAFETY ISSUE ADDRESSED/STATEMENT OF THE PROBLEM

- (1) What prompted this rulemaking activity (e.g., accident, accident investigation, NTSB recommendation, new technology, service history, etc.)? What focused our attention on the issue?

There have been several aviation accidents that were traced to wiring related causes (TWA 800 and Swiss Air 111). ATSRAC was formed and performed non-intrusive and intrusive inspections. The results of these inspections led ATSRAC to believe that a Wiring Systems Training Program would help reduce this problem’s impact.

- (2) What is the underlying safety issue to be addressed in this proposal?

Damage occurring to aircraft wiring systems through neglect, wrong wiring installations, improper wiring repairs, or ignorance of proper maintenance practices.

- (3) What is the underlying safety rationale for the requirement?

Proper training on wiring systems maintenance practices and requirements will result in a reduction of the damage being done as a result of neglect, wrong wiring installations, improper wiring repairs, or ignorance of proper maintenance practices.

- (4) Why should the requirement exist?

To improve maintenance practices and the life of the aircraft wiring systems.

b. CURRENT STANDARDS OR MEANS TO ADDRESS

1. If regulations currently exist:

- (a) What are the current regulations relative to this subject? (Include both the FAR's and JAR's.)

SFAR 88

- (b) How have the regulations been applied? (What are the current means of compliance?) If there are differences between the FAR and JAR, what are they and how has each been applied? (Include a discussion of any advisory material that currently exists.)

Manufacturers are required to perform a safety assessment on fuel system wiring.

- (c) What has occurred since those regulations were adopted that has caused us to conclude that additional or revised regulations are necessary? Why are those regulations now inadequate?

We will require a regulation to implement enhanced wiring systems maintenance and maintenance training programs.

2. If no regulations currently exist:

- (a) What means, if any, have been used in the past to ensure that this safety issue is addressed? Has the FAA relied on issue papers? Special Conditions? Policy statements? Certification action items? If so, reproduce the applicable text from these items that is relative to this issue.

Advisory Circulars AC 20-53, Protection of Airplane Fuel Systems Against Fuel Vapor Ignition Due to Lightning, AC 20-13, Protection of Aircraft Electrical/Electronic Systems Against the Indirect Effects of Lightning, AC 25-16, Electrical Fault and Fire Protection and Prevention, AC 25-98-11B, Fuel Tank Ignition Source Prevention Guidelines, AC 43-13-1B, Acceptable methods, Techniques and Practices for Repairs and Alterations to Aircraft all relate to Aircraft Wiring.

- (b) Why are those means inadequate? Why is rulemaking considered necessary (i.e., do we need a general standard instead of addressing the issue on a case-by-case basis?)

Advisory Circulars are very informative, but not mandatory.

2. DISCUSSION

- *This section explains:*
 - *what the proposal would require,*
 - *what effect we intend the requirement to have, and*
 - *how the proposal addresses the problems identified in Background.*
- *Discuss each requirement separately. Where two or more requirements are very closely related, discuss them together.*
- *This section also should discuss alternatives considered and why each was rejected.*

a. SECTION-BY-SECTION DESCRIPTION OF PROPOSED ACTION

- (1) What is the proposed action? Is the proposed action to introduce a new regulation, revise the existing regulation, or to take some other action?

Provide an AC to explain how to develop and deliver a wiring systems maintenance training program.

- (2) If regulatory action is proposed, what is the text of the proposed regulation?

- (3) If this text changes current regulations, what change does it make? For each change:

- What is the reason for the change?
- What is the effect of the change?

- (5) If not answered already, how will the proposed action address (i.e., correct, eliminate) the underlying safety issue (identified previously)?

Proper training on wiring systems maintenance practices and requirements will result in a reduction of the damage being done as a result of ignorance or neglect. This will increase the life and safety of the aircraft wiring systems.

- (6) Why is the proposed action superior to the current regulations?

There is no current regulation. The only current regulation is SFAR 88 and that only applies to Fuel Systems Wiring.

b. ALTERNATIVES CONSIDERED

- (1) What actions did the working group consider other than the action proposed? Explain alternative ideas and dissenting opinions.

None. The tasking of the working group (WG 8) from ATSRAC was to develop a training program for wiring systems maintenance.

- (2) Why was each action rejected (e.g., cost/benefit? unacceptable decrease in the level of safety? lack of consensus? etc.)? Include the pros and cons associated with each alternative.

3. COSTS AND OTHER ISSUES THAT MUST BE CONSIDERED

The Working Group should answer these questions to the greatest extent possible. What information is supplied can be used in the economic evaluation that the FAA must accomplish for each regulation. The more quality information that is supplied, the quicker the evaluation can be completed.

a. COSTS ASSOCIATED WITH THE PROPOSAL

- (1) Who would be affected by the proposed change? How? (Identify the parties that would be materially affected by the rule change – airplane manufacturers, airplane operators, etc.)

Aircraft Operators

Aircraft Manufacturers

Third Party Maintenance Providers

STC Holders

- (2) What is the cost impact of complying with the proposed regulation? Provide any information that will assist in estimating the costs (either positive or negative) of the proposed rule.

(For example:

- *What are the differences (in general terms) between current practice and the actions required by the new rule?*

The new AC will require that the affected organizations provide training to all maintenance and ramp employees who have possible contact with wiring systems. This cost is not known at this time but is estimated to be significant.

- *If new tests or designs are required, how much time and costs would be associated with them?*
- *If new equipment is required, what can be reported relative to purchase, installation, and maintenance costs?*
- *In contrast, if the proposed rule relieves industry of testing or other costs, please provide any known estimate of costs.*
- *What more-- or what less -- will affected parties have to do if this rule is issued?*

NOTE: “Cost” does not have to be stated in terms of dollars; it can be stated in terms of work-hours, downtime, etc. Include as much detail as possible.)

b. OTHER ISSUES

- (1) Will small businesses be affected? *(In general terms, “small businesses” are those employing 1,500 people or less. This question relates to the Regulatory Flexibility Act of 1980 and the Small Business Regulatory Enforcement Fairness Act of 1996.)*

Yes. Many third party maintenance providers fall into the small business classification.

- (2) Will the proposed rule require affected parties to do any new or additional recordkeeping? If so, explain. *[This question relates to the Paperwork Reduction Act of 1995.]*

Additional training will have to be tracked. This will be done with existing systems but will require some additional paperwork.

- (3) Will the proposed rule create any unnecessary obstacles to the foreign commerce of the United States -- i.e., create barriers to international trade? *[This question relates to the Trade Agreement Act of 1979.]*

Possibly, but we do not have the data to make the call on this.

- (4) Will the proposed rule result in spending by State, local, or tribal governments, or by the private sector, that will be \$100 million or more in one year? *[This question relates to the Unfunded Mandates Reform Act of 1995.]*

Private sector spending may exceed \$100 million per year in the first few years of this program.

4. ADVISORY MATERIAL

- a. Is existing FAA advisory material adequate?

No. There is currently no Advisory Material specifically targeted at training to maintain Aircraft Wiring Systems.

- b. If not, what advisory material should be adopted? Should the existing material be revised, or should new material be provided?

A new AC to cover Aircraft Wiring Systems Maintenance Training is being developed.

- c. Insert the text of the proposed advisory material here (or attach), or summarize the information it will contain, and indicate what form it will be in (e.g., Advisory Circular, policy statement, FAA Order, etc.)

See proposed AC table of contents on next page:



U.S. Department
of Transportation
**Federal Aviation
Administration**

Advisory Circular

**Subject: AIRCRAFT WIRING SYSTEMS
TRAINING PROGRAM**

**Date: 03/21/02
Initiated By: WG8**

**AC No: 120-YY
Change:
DRAFT**

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1. PURPOSE.

This Advisory Circular (AC) provides guidance for developing an enhanced wiring systems training program. The guidance in this AC is based on recommendations submitted to the FAA from the Aging Transport Systems rulemaking Advisory Committee (ATSRAC). The guidance and recommendations in this AC are derived from the best practices training developed through extensive research by ATSRAC Industry Working Groups 5 and 8. This AC is an effort by the FAA to officially endorse these best practices and to dispense this information industry wide so the benefits of this information can be effectively realized. Adoption of the recommendations in this AC will result in a training program that will improve the awareness and skill level of the aviation personnel in wiring system **production, modification**, maintenance, inspection,

