

Estimates of Costs

This evaluation examines four components of cost: (1) The acquisition of test apparatus used to establish the new testing standards; (2) the installation and the maintenance of insulating material to meet the flame propagation requirement; (3) the installation of insulating material to meet the burnthrough requirement; and (4) engineering costs, including those of configuration management, which includes changing (also called "rolling") parts numbers.

Final rule evaluation estimates differ from those of the NPRM evaluation with respect to cost components (1), (2) and (4), as follow:

- The cost of test apparatus was excluded;
- Costs of material to be installed and replaced for the flame propagation requirement were added;
- The cost of a fuel-weight penalty for burnthrough compliance was added;
- The engineering cost of possible changes in design and installation of insulation blankets was eliminated;
- Costs of the engineering work of configuration management were greatly increased.

Each of the four components of the cost estimate is considered in turn below.

The cost of test apparatus was excluded because this cost of compliant insulation is expected to include the

cost of test apparatus. To include the cost of test apparatus will result in counting the cost of test apparatus twice.

This final rule evaluation found that flame propagation material requirements is expected to add cost and weight that was not considered in the NPRM evaluation. While neither installation during manufacture nor replacement during maintenance is expected to add to labor costs, each will add to cost of material and to weight. The incremental cost of the insulation is \$2.05 per square yard. The additional weight will result in additional fuel cost.

Unlike the NPRM this final rule evaluation assigns a minimal cost to the design and installation expense. This change in approach results from FAA technical opinions that became available after the completion of the NPRM evaluation. FAA technical opinions state that the common method of installation shown *will* meet burnthrough requirements *if* a layer of ceramic paper is laminated inside the outboard layer (the layer next to the aluminum skin of the airplane) of the metalized polyvinylfluoride film. As the method of installation will not change, there will be no additional engineering expense for design and installation.

While one commenter stated that the FAA's NPRM estimate of engineering costs was greatly overstated, this final

rule evaluation finds that the NPRM estimate of the costs of the engineering work of configuration management costs was low. Considering other comments and clarifications about the formalization, technical and regulatory requirements, and organizational complexity involved in managing aviation parts nomenclature, the FAA revised its NPRM cost estimate upward.

The agency accepts the industry estimate that as much as eight hours can be required to fully effect changes in nomenclature for each aviation part involved in compliance. These eight hours make up the time needed for work that begins with the initiation of a change in (or with the introduction of new) nomenclature, and that ends with the completion of the authorized and documented release of that nomenclature to all appropriate holders.

Summary of Cost

Flame propagation present-value compliance costs are estimated to be approximately \$76.2 million. The burnthrough present-value compliance costs are expected to be approximately \$32.2 million. Thus the total cost for this rule is \$108.4 million (total does not add due to rounding). The specific cost elements for flame propagation and burnthrough are present in the Summary of Costs table.

SUMMARY OF COSTS

	New installa- tion material cost	Maintenance driven replace- ment cost	Added fuel weight cost	Engineering costs	Total costs
Flame Propagation	\$13.8	\$2.8	\$1.5	\$58.1	\$76.2
Burnthrough	20.6	2.0	9.6	32.2
Total	108.4

Comparison of Benefits and Costs

When discounted at 7 per cent annually, the present value of the overall benefits of this final rule is about \$222.6 million in constant 2001 dollars. Estimated overall costs are about \$108.4 million in 2001 dollars. Thus, taken as a whole, the rule is cost effective. The discounted present values of the benefits of the flame propagation requirements are about \$127.3 million, and comparable costs are about \$76.2 million. The discounted present values of benefits of the burnthrough requirements are about \$95.3 million, and comparable costs are about \$32.2 million. Thus, each part of the rule, considered separately, is cost effective.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the business, organizations, and governmental jurisdictions subject to regulation." To achieve that principle, the Act requires agencies to solicit and consider flexible regulatory proposals and to explain the rationale for their actions. The Act covers a wide-range of small entities, including small businesses, not-for-profit organizations and small governmental jurisdictions.

Agencies must perform a review to determine whether a proposed or final rule will have a significant economic impact on a substantial number of small entities. If the determination is that it will, the agency must prepare a regulatory flexibility analysis as described in the Act.

However, if an agency determines that a proposed or final rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the 1980 act provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.