

necessary performance to respond to RAs. In addition, the FAA eliminated the requirement, in the NPRM, for TCAS I in turbine-powered airplanes of less than 33,000 pounds MCTOW. The FAA also set the rule's compliance date at the latest date allowed by the Congressional Mandate.

Number and Types of Small Entities Impacted

Under the RFA, the FAA must determine whether or not a final rule significantly affects a substantial number of small entities. This determination is typically based on small entity size and cost thresholds that vary depending on the affected industry. The Small Business Administration (SBA) size standards are shown on their Web site (<http://www.sba.gov>) and are based on the North American Industry Classification (NAICS).

Entities potentially affected by the final rule include: scheduled freight air transportation (NAICS Subsector 481112) and nonscheduled chartered air transportation (NAICS Subsector 481212). The FAA used a guideline of 1,500 employees or less per firm as the criteria for the determination of a small business. This corresponds with the SBA's definition of a small business in these areas. It should be noted that the IRE used the SIC (Standard Industrial Classification) numbers to determine the size of a small business. However, the SIC has been replaced by the NAICS. In spite of this the size of a small business has remained the same, at 1,500 or less employees.

To determine which entities will be affected, the FAA segmented the various types of firms into four groups as follows:

1. Part 121 all-cargo air carriers operating turbine-powered airplanes with a MCTOW greater than 33,000 pounds. This definition was the same in the IRE and the FRE. There are 24 firms in Group 1.

2. Part 121 all-cargo air carriers operating turbine-powered airplanes of 33,000 pounds or less MCTOW and piston-powered airplanes regardless of weight. IRE)

As a result of the change in the rule from the NPRM, the definition of Group 2 changed to: Part 121 all-cargo air carriers operating piston-powered airplanes greater than 33,000 pounds MCTOW in the FRE.

There are 7 firms in Group 2.

3. Part 125 all-cargo commercial operators who fly turbine-powered airplanes with a MCTOW greater than 33,000 pounds. This definition was the same in the IRE and the FRE. There are 7 firms in Group 3.

4. Part 125 all-cargo commercial operators flying turbine-powered airplanes of 33,000 pounds or less MCTOW and piston-powered airplanes regardless of weight. (IRE)

As a result of the change in the rule from the NPRM, the definition of Group 4 changed to: Part 125 all-cargo air carriers operating piston-powered airplanes greater than 33,000 pounds MCTOW in the FRE.

There are 14 firms in Group 4.

For simplicity these entities will be referred to as Group 1, 2, 3, or 4 in the remainder of this study.

It should be noted that Groups 1 and 3 have the same definition in both the IRE and the FRE. However, the rule was modified between the NPRM and the Final Rule. The major change in the rule was the elimination of all airplanes with a MCTOW less than 33,000 pounds. Therefore, the definition of Groups 2 and 4 changed, as shown above. Groups 2 and 4 now contain only piston-powered airplanes with a MCTOW greater than 33,000 pounds. If the number of Group 2 and Group 4 small entities had remained the same between the IRE and the FRE the change in the rule would have eliminated thirteen Group 2 small entities and two Group 4 small entities. In practice, however, the combination of the change in the rule and other factors changed the number of small entities in each group.

Projected Reporting, Recordkeeping and Other Compliance Requirements of the Rule

The final rule does not add any specific projected reporting, record keeping, and other requirements.

Steps the Agency Has Taken To Minimize the Significant Economic Impact on Small Entities

FAA potentially reduced the economic impact on small entities in two ways. First, the FAA eliminated the NPRM TCAS1 requirement for turbine-powered airplanes with a MCTOW less than 33,000 pounds. Second, instead of a TCAS II requirement for piston-powered airplanes with a MCTOW greater than 33,000 pounds, the FAA required the use of TCAS I. The FAA determined that piston-powered airplanes of this weight lacked the performance to respond to TCAS II RAs. TCAS I cost less than TCASII. As small entities tend to be the primary operators of these airplanes, these two FAA actions are expected to benefit small entities.

Finally, the FAA allowed the maximum amount of time for compliance that the Congressional Mandate allowed.

Cost and Affordability for Small Entities

The FAA estimated the financial impact on Group 1 small entities in two steps. First, the FAA multiplied a compliance cost of \$223,000 cost per airplane by the operator's fleet size to obtain an operator estimated one-year cost of this rulemaking. Then the FAA calculated an affordability measure by dividing this cost by the operator's 2001 (parent company) revenues. As 2 percent is often less than the annual rate-of-inflation, the FAA believes that a compliance cost of 2 percent or less is affordable.

Group 1 consists of 24 firms that qualify as small entities (see Table XI-1 in the full Regulatory Evaluation). Financial data was available for all but one of these firms. Two of these firms had recently or were emerging from Chapter 11 bankruptcy and were not included in the financial analysis. Seven of the Group 1 firms incur no financial impact because they did not operate aircraft that would be required to have TCAS. The remaining 14 firms 1 had compliance costs as a percentage of revenue ranging from 0.8% to 38.2%. Eleven of these firms are negatively impacted by the rule because their compliance cost as a percentage of revenue is 2 percent or greater. Of the 11 firms with a value above 2% for the ratio the percentage ranges from 2.9 percent to 38.2 percent.

In a similar fashion, the FAA estimated the impact on Group 2 small entities in two steps. In an effort to raise the safety standard and to minimize the impact on small firms, for firms in Group 2, the FAA proposed requirements are expected to be met by an investment of \$82,000. For the first step, the FAA multiplied the cost per airplane of \$82,000 by the operator's fleet size to obtain the estimated one-year compliance cost of this rulemaking for each operator. This estimated operator compliance cost is then divided by the operator's 2001 (parent company) revenues. This ratio provides a measure of affordability.

Group 2 consists of a total of 7 firms (Table XI-2 in the full Regulatory Evaluation) that qualified as small businesses, based on the criteria of 1,500 employees per firm. Financial data was available for all but one of these firms. The financial data indicated that five of the six firms were adversely impacted by this final rule. The value of this ratio of cost per revenue is 2 percent or less for 1 of the 7 Group 2 firms. For the remaining Group 2 firms the value of this ratio ranged from 2.2 percent to 9.4 percent.