

manufacturers to harmonize with global RVSM standards unless there is adequate justification for a difference in our regulations. Common country, region and global standards enable operators to fly across boundaries without incurring operational limitations or penalties. Common standards also enable aircraft manufacturers to sell products to operators in other countries and regions without requiring special aircraft system modifications. We have concluded that, since the proposal would affect only 0.3 percent of domestic operations, the minor benefit provided does not justify a difference from international standards when considering the major benefits provided by sharing common standards for RVSM operations and air traffic control with neighboring countries and of continued harmonization with global RVSM standards.

c. One commenter believed that if we did not retain the single RVSM compliant altimeter provision then we should raise the floor of RVSM airspace to flight level 300 so that turbo-propeller aircraft could operate at flight level 290.

*FAA Response:* To allow non-RVSM aircraft to operate at FL 290 would require us to raise the floor of RVSM airspace to FL 310, not FL 300. Above FL 290, 2,000-foot vertical separation is required between aircraft unless the aircraft are RVSM compliant. If we were to allow non-RVSM aircraft to operate at FL 290, FL 300 could not be used since it does not provide 2,000-foot vertical separation when non-RVSM aircraft are involved. The loss of one of the six new flight levels provided by RVSM would limit RVSM benefits for the significant percentage of the operator community that is preparing for RVSM implementation.

7. ATA asked for a single source of material for RVSM programs.

*FAA Response:* We established an RVSM Documentation Web page to provide ready access to RVSM regulations and to RVSM guidance. Official documents related to RVSM are available from that Web page at [http://www.faa.gov/ats/ato/rvsm\\_documentation.htm](http://www.faa.gov/ats/ato/rvsm_documentation.htm). In addition, these documents can be obtained from FAA Flight Standards District Offices and Certificate Management Offices.

## Benefits

1. A number of commenters expressed concern that RVSM will not alleviate delay or holding problems in the terminal area and will, in fact, exacerbate the situation by increasing arriving and departing traffic.

*FAA Response:* First, the implementation of RVSM will not automatically lead to a significant traffic increase in the short to mid term in either the enroute or the terminal area. The near doubling of flight levels will not lead to a near doubling of the number of airframes that operate in the national airspace system (NAS). Air traffic at FAA air route traffic control centers is projected to increase at an average annual rate of 2.0 percent. RVSM will enhance air traffic's capability to manage this increase efficiently. Second, the enhancements to enroute operations stand on their own merit. They are estimated to account for approximately \$800,000 annual savings as a result of reduced ground delays. Also, we do not believe that we should make no effort to enhance enroute operating efficiency until additional enhancements to terminal area operations are made. Third, domestic RVSM is a project in the NAS Operational Evolution Plan (OEP). It is in the En Route Congestion section of the OEP. The NAS OEP also contains projects that address Arrival/Departure Rate problems including runway capacity and terminal area problems. The domestic RVSM project should not be considered in isolation, but as an element of OEP projects that are addressing: Arrival/Departure Rate, En Route Congestion, Airport Weather Conditions, and En Route Severe Weather.

2. One commenter stated that fuel savings is not an adequate justification for Domestic RVSM implementation.

*FAA Response:* The Regulatory Impact Analysis cites both quantitative and qualitative benefits to domestic RVSM implementation. Fuel savings due to enhanced access to more fuel-efficient flight levels is quantified. We forecast 5.3 billion dollars in fuel savings from January 2005 through January 2016. The analysis also cites qualitative benefits to air traffic control. These benefits include increased controller flexibility, enhanced sector throughput allowing more aircraft to operate on time and fuel efficient routes, reduced controller workload allowing them to control traffic more efficiently, enhanced flexibility to allow aircraft to cross intersecting routes, mitigation of traffic congestion at conflict points, and potential for enhanced overall enroute airspace capacity in the long term.

3. One commenter stated that domestic RVSM benefits will not be significant to small operators.

*FAA Response:* We recognize that the aircraft utilization rate for small operators is significantly lower than that for larger operators and therefore small

operators accrue RVSM benefits at a lower rate. We believe that RVSM provides significant enhancements to daily operations in the National Airspace System (NAS) and provides benefits to the operators that conduct the significant majority or approximately 90 percent of operations in the NAS. We are considering the overall benefit to the majority of operators as well as the overall enhancement to NAS operations.

## Costs Including Downtime Issues

1. A number of commenters stated that they believed the average cost to modify aircraft to comply with RVSM standards will be in the \$200,000–\$300,000 range.

*FAA Response:* In the Regulatory Impact Analysis we have estimated the costs to modify individual aircraft types for RVSM compliance. The range of modification costs for individual airframes varies from less than \$100 for some aircraft types up to \$175,000 to \$235,000 for a small number of older aircraft types.

2. Comments were made that the costs of operation below FL 290 should be considered in the Benefit/Cost analysis. Also, comments were made that raised issues related to range limitation and fuel burn costs below FL 290.

We have examined operations below FL 290. We anticipate that approximately 10 percent of daily flights in the NAS that are currently operated above FL 290 may operate below FL 290 in the initial period of domestic RVSM implementation. We have examined the time of flight in NAS operations and the affect of operating below FL 290 on aircraft range and fuel burn and have posted the study entitled "An Examination of Range and Fuel-Burn Penalties Associated With Operating Business Jet Type Aircraft Beneath Proposed Domestic Reduced Vertical Separation Minimum (DRVSM) Airspace" in the public docket. You can find the public docket on the Internet at <http://dms.dot.gov>. Search for docket number 12261. For this analysis, we first examined five older small commercial/ general aviation aircraft types with high modification costs under the assumption that some operators may elect to operate these aircraft types below FL 290 rather than incur RVSM modification costs. We next examined all business jet aircraft types operated under 14 CFR part 135. We reached the following conclusions in the study:

- We estimate the average annual cost of operation below FL 290 per airframe to be \$1,147.