

- The average fuel penalty for business jet aircraft operated under part 135 is 7.15 percent.

- Eight percent of operations flown prior to DRVSM above FL 290 could no longer be flown without a fuel stop due to range penalties associated with operating below FL 290.

Other factors that the FAA considered were:

- Average flight time at enroute cruise was 1.9 hours for aircraft used in commercial operations and 1.4 hours for aircraft used in general aviation operations.

- Time at enroute cruise was 2 hours or less for 82 percent of general aviation flights.

3. Some commenters stated that after comparing RVSM aircraft modification costs to the residual value of the aircraft, they could not justify modifying certain aircraft types.

FAA Response: Operators have two basic options. They can upgrade their aircraft to comply with RVSM standards or they can operate their aircraft below FL 290 or, if capable, above FL 410. We recognize that in some cases operators may decide for economic reasons not to pursue RVSM compliance.

4. Some commenters stated that DRVSM will significantly impact the part 135 on-demand charter industry.

FAA Response: We support DRVSM implementation because it provides significant benefits to NAS operations and to the operators that conduct the significant majority of flights in NAS airspace. We recognize that some operators will have to make economic decisions on whether to retain an aircraft and operate it below FL 290 or to modify it to RVSM standards so that it can operate above FL 290. Based on our analysis of operations below FL 290, it appears that operation below FL 290 is a viable option for some operators if they choose not to modify their aircraft.

5. One commenter stated that if it did not modify its aircraft for RVSM there would be a significant negative impact on the residual value of the aircraft.

FAA Response: RVSM is a worldwide program. RVSM has already been implemented in the North and West Atlantic, Pacific and Western Pacific, Europe, Australia, and Northern Canada. In addition, there are implementation groups established for the Middle East, the Caribbean, and South America. We believe that the aviation community must recognize the global nature of RVSM and plan accordingly. The residual value of aircraft is not a primary consideration in this rulemaking.

6. One commenter proposed that the costs to small operators should be

subsidized either by the Airport and Airways Trust fund or by the airlines.

FAA Response: A proposal to subsidize small operators by either the airlines or by the Airport and Airways Trust Fund was not proposed in the NPRM and is beyond the scope of this rulemaking.

7. Some commenters stated that the Regulatory Impact Analysis needs to be updated and the modification costs for small aircraft should be re-estimated and should include the out of service cost during the period the aircraft are undergoing modification.

FAA Response: The Regulatory Impact Analysis that is summarized in this document and published in full in the DOT Docket includes updated costs and benefit estimates. We have estimated the number of aircraft that may be out of service for RVSM modification. We have also estimated costs related to the loss of revenue when certain aircraft are out of service undergoing RVSM modification. Many operators have scheduled RVSM compliance work to be completed during scheduled aircraft inspections to avoid the cost of additional out of service time for RVSM modification.

8. RAA stated that it did not believe that RAA operators were considered in the NPRM Regulatory Impact Analysis.

FAA Response: RAA operator costs were considered in the Regulatory Impact Analysis that was included with the NPRM in the DOT Docket and are considered in the Regulatory Impact Analysis included with this final rule.

9. One commenter stated that operators were unable to accurately assess the costs related to monitoring of aircraft altitude keeping.

FAA Response: We assessed operator costs associated with monitoring in the Regulatory Impact Analysis published in conjunction with the NPRM and the final rule. In that assessment, the FAA estimated that operator costs associated with monitoring of the DRVSM fleet would be approximately \$4.3 million. For this assessment, we projected that the GPS-based Monitoring System (GMS) would monitor a portion of the RVSM fleet and the ground based Aircraft Geometric Height Monitoring Element would monitor those not monitored by the GMS. The \$4.3 million in monitoring costs are not significant when compared to estimated fleet upgrade costs of \$735 million. Operators have two options for obtaining information on monitoring systems and procedures. They can obtain information by accessing the FAA RVSM Web site at <http://www.faa.gov/ats/ato/rvsm1.htm>. They can obtain the same information by contacting one of

the Flight Standards District Offices in their area.

Implementation Program: Necessity To Implement, Implementation Scenarios, Planned Implementation Date

1. A number of aviation organizations and some individuals provided comments supporting the implementation plan and schedule published in the NPRM. These commenters opposed proposals to vertically phase-in RVSM flight levels. Commenters cited significant public benefit and benefit to the national interest. They cited proven benefits in areas outside the United States, including reduced operating costs (time, fuel efficiency) and enhanced air traffic control.

FAA Response: We acknowledge these comments and have considered them in our evaluation of the DRVSM implementation plan.

2. The ATA proposed that the FAA should change the target implementation date to a more suitable Aeronautical Information Regulation and Control (AIRAC) date of January 20, 2005. The ATA's rationale for this proposal is that the AIRAC date in December 2004 is December 23. Since this date is just before a major holiday, ATA proposed that the FAA should target January 20, 2005 as the date to implement DRVSM.

FAA Response: We understand the benefits of this proposal and will use January 20, 2005 for planning purposes. The AIRAC dates are agreed dates when changes to aeronautical information are made for flight planning and also for aircraft navigation databases. We agree that January 20, 2005 is a more practical date to implement DRVSM.

3. Federal Express proposed that the implementation date for DRVSM be harmonized with the Enhanced Ground Proximity Warning System (EGPWS) on March 31, 2005 so that aircraft modification schedules for the two programs could be coordinated.

FAA Response: We have projected that RVSM compliant aircraft will conduct ninety percent of flights by January of 2005. We believe this is an appropriate time to implement DRVSM.

4. RAA asserts that 85% of regional jets will be required to be RVSM compliant on the DRVSM implementation date.

FAA Response: We are tracking RVSM compliance of operators and aircraft types. Since regional jets are a significant fleet in domestic operations, we are closely tracking the status of the regional jet fleet. As stated previously, we believe that we should implement DRVSM when approximately 90 percent