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SFAR 50-1

Part III

**Department of
Transportation**

Federal Aviation Administration

14 CFR Parts 91 and 135

**Special Flight Rules in the Vicinity of the
Grand Canyon National Park; Final Rule;
Request for Comments**

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Parts 91, 135

[Docket No. 25149; SFAR No. 50-1]

Special Flight Rules in the Vicinity of the Grand Canyon National Park

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule; request for comments.

SUMMARY: This action revises the procedures for operation of aircraft in the airspace above the Grand Canyon up to an altitude of 9,000 feet above mean sea level (MSL), and extends the duration of those procedures to June 15, 1992. In recent years, the high volume of air traffic over the park has increased the risk of midair collision. The overflights also generated noise impacts on park surface areas to a degree which may be inconsistent with Federal policies for operation of the park. The restrictions adopted will: (1) Retain the Special Flight Rules Area established by SFAR 50 from the surface to 9,000 feet MSL in the area of the Grand Canyon; (2) prohibit flights in this area unless operated in accordance with specific routes, altitudes, and procedures or otherwise specifically authorized by the local FAA Flight Standards District Office; (3) established boundaries of certain noise-sensitive areas of the Grand Canyon National Park to be avoided by aircraft overflight up to 9,000 feet MSL; and (4) establish certain terrain avoidance and communications requirements for flights in the area. The rules adopted will reduce the risk of midair collision, will reduce the risk of terrain contact accidents below the rim level, and will reduce the impact of aircraft noise on the park environment.

DATES: Effective date: June 15, 1987.

Comment date: Comments must be received on or before October 15, 1987.

Expiration date: Special Federal Aviation Regulation No. 50-1 expires on June 15, 1992.

ADDRESSES: Comments on the proposed permanent rule regulation may be mailed in duplicate to:

Federal Aviation Administration, Office of the Chief Counsel, Attention: Rules Docket (AGC-204), Docket No. 25149, 800 Independence Avenue SW., Washington, DC 20591

or delivered in duplicate to:

FAA Rules Docket, 800 Independence Avenue SW., Washington, DC

Comments may be examined in the Rules Docket weekdays, except Federal holidays, between 8:30 a.m. and 5:00 p.m.

FOR FURTHER INFORMATION CONTACT: David L. Bennett, Office of the Chief Counsel, AGC-230, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591, Telephone: (202) 267-3491.

SUPPLEMENTARY INFORMATION:**Comments Invited**

Even though this rule is final, interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire on any portion of the rule. Comments that provide the factual basis supporting the views and suggestions presented are particularly helpful in developing reasoned regulatory decisions. Communications should identify the regulatory docket number and be submitted in duplicate to the address listed above. Commenters wishing the FAA to acknowledge receipt of their comments must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 25149." The postcard will be date/time stamped and returned to the commenter. All comments submitted will be available for examination in the Rules Docket both before and after the closing date for comments.

Availability of Document

Any person may obtain a copy of this document by submitting a request to the Federal Aviation Administration, Office of Public Affairs, APA-200, 800 Independence Avenue, SW., Washington, DC 20591; or by calling (202) 267-3479. Communications must identify the special rule number of the document.

Background

On December 4, 1986, the FAA issued Notice No. 86-21 (51 FR 44422; December 9, 1986) proposing to establish temporary flight restrictions in the vicinity of the Grand Canyon National Park (GCNP) up to an altitude of 9,000 feet above mean sea level (MSL). The notice also proposed a follow-on final rule to take effect upon expiration of the temporary Special Federal Aviation Regulation (SFAR) in June 1987. As proposed in Notice 86-21, the temporary SFAR would: (1) Establish a Special Flight Rules Area from the surface to 9,000 feet MSL in the area of the Grand Canyon; (2) prohibit flights in this area unless specifically authorized by the local FAA Flight Standards District

Office; and (3) establish certain terrain avoidance and communications requirements for flights in the area. The proposed follow-on rule (which could also be an SFAR) would include, in addition to the general restrictions contained in the temporary rule: (1) Provisions to permit access to the special flight rules area by general aviation operators, and (2) if supported by evidence, provisions for avoidance of certain noise-critical sites in the park by low-flying aircraft.

The comment period for the temporary SFAR closed on January 10, 1987, and for the proposed follow-on rule on March 1, 1987.

On March 23, 1987, the FAA issued SFAR 50 (52 FR 9768, March 26, 1987), a temporary rule identical to the rule proposed in Notice 86-21. SFAR 50 reopened the comment period on Docket No. 25149 for public comment until April 15, 1987, to permit further comment based on the actual provisions of the temporary rule.

The Need for Regulatory Action

In proposing the flight restrictions, the FAA cited both operational reasons of safety and efficiency and environmental reasons arising from concern for the impact of aircraft noise on the Park surface.

Safety and Efficiency

The Grand Canyon constitutes an attraction to sightseers from the air as well as the ground, which results in an unusual level of air traffic in the airspace above the canyon. Because of the terrain of the canyon and the relatively low level of most sightseeing flights over the Grand Canyon, traffic over the canyon is not controlled by FAA air traffic control. The result is a situation in which a substantial number of aircraft operate in the same general airspace over the canyon under the flight rules that apply to sparsely populated areas and low traffic volume airspace. While the total area of the canyon is large, most sightseeing pilots are attracted to particular areas of the canyon, which increases the relative number of aircraft in those areas. Separation of aircraft in this airspace is accomplished only by the see-and-avoid responsibility of each pilot and, above 3,000 feet AGL, the 1,000-foot separation of eastbound and westbound traffic under 14 CFR 91.109.

While the safety record in the vicinity of the canyon compares favorably with the general accident rates for general aviation and air taxi operators, there have been accidents in the canyon itself. The most recent tour operator accident

was a collision between an air tour airplane and a tour helicopter in June 1986. The FAA attributes the relatively good safety record in the canyon area in large part to the voluntary use by the commercial tour operators, whose flights represent more than 80 percent of the lower-altitude traffic in the area, of standard route, altitude, and communications procedures. Because each tour operator flies a standard route over the canyon and periodically announces its location and altitude on a common radio frequency at designated reporting points, the pilot of each such aircraft is aware of the location of all other tour aircraft in the area.

Notwithstanding this past record, however, the FAA believes that there are two general reasons why some degree of additional regulation of canyon overflights is necessary. First, the existing procedures used by the air tour operators are voluntary and not regulatory. While some degree of control over Part 135 commercial operators can be exercised through the operations specifications of each operator, commercial air tours may be conducted under Part 91 by virtue of an exception to the applicability of Part 135. Section 135.1(b)(2) provides that a person conducting nonstop sightseeing flights within 25 miles of the airport at which the aircraft takes off and lands is not covered by Part 135.

Second, the voluntary procedures do not apply to general aviation and military flights. The voluntary procedures, therefore, have substantially contributed to the safe operation of commercial tour operators but have little safety benefit with respect to general aviation, military, and nonparticipating air tour operators. The FAA believes that there is a need to require that commercial operators use the standard procedures and to separate transient general aviation traffic from the regular tour operations through the designation of certain routes and altitudes for both Part 135 and non-Part 135 operators.

Noise Impact on the Surface

The FAA believes that there is also a public interest in promoting a quiet environment in the canyon and minimizing the intrusion of aircraft noise on this environment, consistent with operational air safety and efficiency considerations. Congress, in the Grand Canyon National Park Enlargement Act of 1975, expressly provided for protection of the natural quiet of the park. Under section 8 of the Act (16 U.S.C. 228g), if the Secretary of the Interior finds that aircraft or helicopter activity within the park is likely to cause

a significant adverse effect on the "natural quiet and experience of the Park," he is required to submit recommendations to the Administrator of the FAA for measures to mitigate that impact.

The NPS held a series of public hearings in 1985 and 1986 and solicited comments from the public, including environmental groups and air tour operators, on the subject of aircraft operations at the canyon. Following the above process, the Department of the Interior, in a letter from the Assistant Secretary for Fish and Wildlife and Parks, submitted recommendations to the FAA Administrator on November 17, 1986. The Department did not find a significant impact of aircraft noise on the Park, but rather found that the data available was insufficient for management decisions or recommendations at this time. The Department, therefore, recommended specific actions relating to the safety of aircraft operations, but with respect to aircraft noise recommended further study. The recommendations may be summarized as follows:

- (1) Adopt airspace/flight regulations which:
 - Provide for the separation of aircraft, including helicopters;
 - Prohibit flights in the inner gorge of the canyon;
 - Provide for some regulation of flights between the inner gorge and the upper rim of the canyon; and
 - Establish flight paths over the canyon which avoid major visitor overlooks and peregrine nesting areas.
- (2) Install radar at the Grand Canyon National Park Airport to assist in aircraft separation;
- (3) Undertake a joint 2-year study, with the NPS, of the impacts of aircraft noise on the Park with the object of additional regulation to reduce those impacts.

Finally, the Department offered to consult and cooperate with the FAA in the implementation of these actions.

Various provisions of this regulation implement each of the flight recommendations listed under (1) above. Also, in developing this regulation, the FAA consulted with the Office of the Secretary of the Interior and the National Park Service in the development of regulatory measures to mitigate noise impacts on certain areas of the Grand Canyon National Park. The FAA has agreed to provide all necessary technical assistance to the Department of Interior in the Department's study of aircraft noise at the Park, and the results of that study may be used to develop

additional mitigation measures in the future. The recommendation to install radar at the Grand Canyon National Park Airport is still under review by the agency.

Comments on the Proposed SFAR

Comments on the long-term rule, as with those on the temporary rule now in effect, tended to address one of four general areas: The noise/environmental impact of aircraft operations on the Park; impact of the proposal on general aviation operations; impact of the proposal on commercial tour operations generally; and impact of the proposal on commercial helicopter operations.

Aircraft Noise—Minimum Altitudes

A majority of commenters, mostly individuals but also several major environmental groups, including the Audubon Society, the Sierra Club, and the Wilderness Society, stated that aircraft flights should not be permitted over the Grand Canyon or should be limited to altitudes above the rim of the canyon, or higher, to minimize aircraft noise in the Park. The Maricopa Audubon Society and the Sierra Club supported the "quiet canyon" option of prohibiting all aircraft flight above the Park to an altitude of 18,000 feet MSL. The National Parks and Conservation Association supported the need for regulations but urged that a minimum altitude be established at 2,000 feet above the uppermost rim level, in accordance with FAA Advisory Circular 91-36C. A river raft tour company requested a minimum overflight altitude of 7,500 MSL. Other commenters supported minimum flight altitudes from 2,000 feet above the rim to 40,000 feet MSL.

The National Park Service supported the issuance of regulations, but suggested that the regulations incorporate noise mitigation measures such as routing aircraft away from noise-sensitive areas. NPS also requested that the FAA use the definition of "rim level" developed by the NPS in its 1986 environmental assessment of the proposed GCNP Aircraft Management Plan—generally the uppermost rim of the canyon in each sector. Several commenters, including Senator John McCain, requested a minimum altitude of 2,000 feet above the rim as suggested in FAA Advisory Circular 91-36C.

A common theme in virtually all of the comments relating to minimum altitudes was some reference to the canyon rim. Many of the individual commenters simply requested no flights below the rim of the canyon. Other commenters

...knowledge the fact that the rim does not provide a usable altitude reference for pilots, and that any minimum altitude would need to be expressed in terms of feet above mean sea level (MSL). However, the rim was still cited as a benchmark for the establishment of such MSL altitudes. Few of the comments offered specific information relating mitigation of surface noise impacts to the restriction of aircraft flight to particular altitudes at near rim level elevations.

An exception was a "Sound Level Experiment" conducted by National Park Service personnel in August 1976. The results of the experiment were submitted to the docket by another commenter and do not necessarily represent National Park Service opinions or findings. Also, the procedure was conducted at one location on one day, with flyovers by one fixed-wing aircraft and one helicopter, and cannot be considered a comprehensive or authoritative study of aircraft noise impacts on the canyon surface. However, the report does provide some indication of the relative surface noise impacts of aircraft overflight below, at, and above rim level elevations.

The test involved multiple flyovers of a sound meter, set up on a plateau at 4,400 feet MSL, at altitudes of 6,400 feet MSL, 7,400 feet MSL, 9,500 feet MSL, 11,500 feet MSL, and 13,500 feet MSL. South rim elevation in the area was 7,400 MSL; river elevation in the area was 2,400 MSL. Flyovers were conducted by a fixed-wing single-engine Cessna 206 and a Bell 206 helicopter. Because FAA has not proposed to restrict flights above 9,000 feet MSL in this rulemaking, the 6,400 feet MSL and 7,400 feet MSL flyovers were of primary interest.

Measurements were taken in A-weighted decibels (sound levels in the human hearing frequency spectrum). The overall mean of the sound levels recorded for the Cessna were 62.48 dBA at 6,400 feet MSL and 59.4 dBA at 7,400 MSL. For the helicopter, the overall mean levels were 62.68 dBA at 6,400 feet MSL and 61.35 dBA at 7,400 MSL. The results indicate that the sound level decreased noticeably as the fixed-wing aircraft moved from 1,000 feet below the rim up to rim level. The helicopter, however, registered only a slight reduction in surface noise impact in the rim level flyover from 1,000 feet lower. Presumably, actual noise levels would be lower at the floor of the canyon, 2,000 feet below the elevation of the test equipment.

The FAA recognizes that the conclusions that can be drawn from such a test are limited, and that full

consideration of actual noise impacts on the Park surface will not be possible until the completion of the 2-year noise study contemplated by the Department of the Interior. However, the preliminary conclusions of the August 1986 test tend to support the FAA's approach in the rule adopted, which is to restrict fixed-wing traffic to altitudes at or above the approximate level of the south rim, and to place helicopters 500 feet to 1,000 feet lower for traffic separation.

The rule adopted by the FAA provides that an aircraft may not be operated within the Special Flight Rules Area below 9,000 feet MSL, unless operated in accordance with certain route and altitude restrictions or otherwise authorized by the FAA Las Vegas Flight Standards District Office. The rule specifies different altitudes for transient operators and tour operators, eastbound and westbound traffic, and helicopter and fixed-wing traffic, to separate different types of operations to the maximum extent practical. In order to obtain a sufficient number of operating altitudes for traffic separation below the base of controlled airspace at 9,000 feet MSL, the rule uses the airspace for several thousand feet below 9,000 feet MSL. However, with the exception of the routes west of Diamond Creek, discussed below, the minimum altitudes used are above or only slightly below the elevation of the canyon's south rim. In most cases, the minimum altitudes are 400 feet or more above the Colorado River. In addition to minimum altitudes, the rule defines certain especially noise-sensitive areas, discussed in more detail below, in which no transient flights or commercial tours are permitted below 9,000 feet MSL.

The altitude restrictions for transient aircraft are 3,000 feet MSL eastbound and 8,500 feet MSL westbound, with a 6,500 feet MSL route in the west canyon area. Operation by transient aircraft at lower altitudes would not be permitted without express authorization from the Flight Standards District Office, which would normally not be granted for sightseeing flights. Therefore, general aviation flights, which before the implementation of SFAR 50 could operate virtually down to the surface of the canyon floor under FAR § 91.79, will be required to operate at or above those altitudes. With the exception of one area of high terrain near the north rim overlook, the general aviation altitudes are above both the north and south rims of the canyon in all areas.

The Las Vegas (LAS) Flight Standard District Office (FSDO) will authorize qualifying commercial air tour operators to operate in the area, under specific conditions contained in their operations

specifications. The minimum altitudes which the tour operations will be authorized will be as follows. In the western sector (western boundary of area to Diamond Creek), the minimum authorized altitudes will be 2,500 feet MSL for helicopters and 3,000 feet for fixed wing aircraft. While these altitudes are below the south rim elevation in this area, the interest in minimizing aircraft noise in this sector reduced by the fact that the river in this area already experiences heavy motorboating and recreational use. Also, NPS has not identified any noise sensitive areas in this sector. Finally, the minimum altitudes are substantially higher than some tour operators have flown in the past.

In the central sector (Diamond Creek to Havasu Canyon), the minimum altitudes authorized will be 5,500 feet MSL for helicopters and 6,000 feet MSL for fixed wing generally, and 6,500 feet MSL helicopter and 7,500 feet MSL fixed-wing above Supai Village. The north rim elevation in this sector averages about 6,000 feet, while the south rim varies from about 5,500 feet to 6,600 feet. In general, the tour routes will climb to higher altitudes heading eastbound as the terrain rises.

In the eastern sector (Havasu Canyon to the eastern boundary), the minimum authorized altitudes will be 6,500 feet MSL for helicopters and 7,500 feet MSL for fixed wing. The elevation of the north rim in this area varies from approximately 5,800 feet to 6,500 feet; the south rim elevation varies from approximately 5,500 feet to 7,500 feet. For comparison, the elevation of the Colorado River in this area averages about 2,400 feet.

In the central and eastern sectors, which contain several noise-sensitive areas, the minimum altitude imposed by the FAA in the tour operators' operations specifications will be higher than altitudes used by some of the operators in the past. These altitudes are not above the highest point of both rims at every point, but the altitudes do approximate the level of the lower rim of the canyon through that area and virtually preclude sustained operation "in" the canyon. As a result, the minimum altitudes required by the rule for tour operators, general aviation aircraft, and military aircraft are substantially higher than required by existing FAA regulations, 14 CFR 91.79, and higher than the previous flight altitudes used by some operators.

Many of the commenters who criticized the altitudes proposed by the FAA suggested that FAA was simply preserving the existing aircraft

overflight situation, which they considered unacceptable. The FAA disagrees. The agency believes that the minimum altitudes imposed by the rule are a beneficial change in current procedures and will have a positive effect on aircraft noise impact at the Park. Setting those altitudes a few hundred feet higher in the central and eastern sectors to coincide with the precise rim level, even if it could be determined, would produce very little additional reduction of noise on the Park surface and would cause substantial operational problems for pilots, by compressing traffic into a smaller vertical airspace. Setting minimum altitudes substantially above the surface of the canyon rim, as requested by some commenters, was not proposed by the FAA. Such altitude restrictions would interfere with ATC-controlled traffic in the National Airspace System; would act as a bar to flight through the area for many aircraft due to decreased aircraft performance at high density altitudes and/or pilot and passenger oxygen use requirements; and would have potential impacts on the air tour industry which are not supportable on the basis of noise impact data available at this time.

The imposition of rim-level minimum altitudes in the western sector of the Special Flight Rules Area was not considered warranted, in view of the lesser impact of aircraft noise on the surface in that sector.

Aircraft Noise—Avoidance of Noise-Sensitive Areas.

A number of commenters suggested that the avoidance of certain noise-sensitive sites in the canyon was preferable to, or necessary in addition to, the restriction of aircraft to high altitudes. The primary criteria for noise sensitivity in the sites suggested were the number of people present in an area and the particular expectation of quiet by persons in a particular area, even if the number of such persons is relatively small. It was also suggested that areas of bighorn sheep populations and peregrine falcon nesting areas should be avoided.

As with recommendations for certain minimum altitudes, the comments requesting avoidance of particular areas by aircraft generally were not supported by technical data. Also, the locations of wildlife populations were not specified, and the information submitted on the impact of aircraft overflight on wildlife in the canyon to date is inconclusive. The FAA expects that the comprehensive study under consideration by the Department of the Interior would provide much more

detailed and authoritative information on these subjects.

However, notwithstanding the lack of definitive technical supporting information, the commenters who requested avoidance of certain areas by overflying aircraft were nearly unanimous in the areas suggested for such protection. Moreover, the support for avoidance of low-altitude flight over certain areas was very broadly based, including not only environmental groups but also air tour operators, the Aircraft Owners and Pilots Association, and general aviation pilots. Accordingly, the FAA believes it appropriate at this time to proceed with designation of areas for avoidance of aircraft overflight up to the upper limit of the Special Flight Rules Area, 9,000 feet MSL.

Many of the tour operators commenting on the proposal either now operate, or have proposed to operate, on routes that avoid certain areas of the canyon identified as particularly noise-sensitive. The Las Vegas FSDO, in approving commercial tour routes, has notified operators that their routes must avoid the Grand Canyon Village area, Deer Creek and Thunder Falls, the north rim lookout at Cape Royal, Desert View, Point Sublime, and Toroweap to the maximum extent practical.

To make these restrictions regulatory, and to apply them to all operators equally, the regulation adopted specifically identifies the following areas as noise-sensitive areas:

- Toroweap Overlook.
- The Thunder River/Deer Creek Falls/Tapeats Creek area north of a line 1 mile north of the Colorado River. (The southern boundary will permit westbound transient aircraft to follow the river through the area at 8,500 feet MSL. Eastbound transient aircraft and all tour operators will be routed well to the south of area.)
- The South Rim/Grand Canyon Village area extending north to Phantom Ranch.
- The North rim area from Outlet Canyon to Cape Royal.
- The watchtower at Desert View Overlook.

The areas are defined in the rule in terms consistent with air navigation. The regulation prohibits flight in the areas except when required by safety or some Park-related purpose. An additional limited exception to the South Rim/Phantom Ranch area is provided for aircraft landing at or taking off from Grand Canyon National Park Airport or Tusayan Airport.

Several commenters also requested that the Point Sublime area be designated a flight-free zone. The NPS

did not include this area, however, and the FAA believes that the 500-foot terrain clearance restriction is sufficient to avoid the archeological site at Point Sublime.

General aviation operations.

SFAR-50 originally restricted general aviation flights to 9,000 feet temporarily to provide separation of transient general aviation traffic from the regulated commercial operations until procedures could be developed for transient general aviation flight below that altitude. Comments on Notice 86-21 or on the SFAR were received from the Aircraft Owners and Pilots Association (AOPA), the Arizona Pilots Association, the Experimental Aircraft Association (EAA), the Soaring Society of America, and several individual pilots. These commenters criticized the exclusion of general aviation operations from airspace in which commercial operations would be permitted, on grounds of fairness and on the basis that general aviation aircraft were not involved in the June 1986 accident and are not the primary source of aircraft noise in the Park. Several of the commercial tour operators commenting on the proposal also supported the right of general aviation operators for access to the same general airspace as the tour operators.

The Arizona Pilots Association also objected to the characterization of general aviation pilots as exclusively transient operations by pilots inexperienced with flying above the canyon. While the FAA agrees that many local pilots are undoubtedly experienced in flying in that area, the agency continues to believe that many of the general aviation pilots operating above the canyon are on a one-time or infrequent flight in the area and do not have such experience.

Various alternatives to the 9,000 foot limitation were suggested by the Arizona Pilots Association, EAA, AOPA, and several other commenters, including development of standard procedures and indication of these procedures on flight charts.

The rule adopted contains procedures for four basic transient procedures for flight in the Special Flight Rules Area. The routes are regulatory rather than advisory, but incorporate some degree of flexibility for varying operational needs. The four basic routes are an eastbound route at 8,000 feet MSL; a westbound route at 8,500 feet MSL; a west canyon route between Pearce Ferry and Diamond Creek at 8,000 feet MSL eastbound and 8,500 feet MSL westbound; and a direct route from

Grand Canyon National Park Airport to Las Vegas, also used by tour operators. Pilots flying the routes will be required to remain to the right of the river and to avoid the noise-sensitive areas identified in the rule.

Designation of specific transient routes and commercial tour routes generally reserves different altitudes for opposite-direction traffic and different types of operations (such as fixed-wing and helicopter). The routes do not in any way assure separation of individual aircraft. Pilots using the routes are in a VFR environment and remain fully responsible for seeing and avoiding other aircraft. Also, the routes do not relieve the pilot from compliance with any other Federal Aviation Regulation, including FAR 91.79, Minimum Safe Altitudes.

The routes will be indicated on the sectional aeronautical chart to be published on September 24, 1987, and in the meantime will be indicated in Class II Notices to Airmen (NOTAM's). The procedures as described in the rule are clear and simple even without a chart depiction, however. Because all information will be furnished in charts and publications, no briefing will be required before operation on the routes. The FAA, in Notice 86-21, requested comments on whether a briefing should be required before operation in the area. Most comments on the briefing opposed the idea. The FAA believes that a briefing requirement, if adopted, would impose an unacceptable burden on the FAA facility or facilities responsible for providing the briefings. Also, it would be difficult to track which pilots had had a recent briefing and which had not. Accordingly, the FAA will publish the procedures and information needed to operate the routes, but the agency does not see the further need for a briefing and will not require a briefing for such operations.

The routes permit transient flight in the same areas of the canyon as the routes authorized for the air tour operators. The transient routes are at different altitudes than the tour routes, simply for separation of the transient traffic from the relatively heavy tour operator operations. Because helicopter routes are assigned to the altitudes immediately below the fixed-wing tour routes, the transient routes are the next available higher altitudes which can be maintained throughout the Special Flight Rules Area. Basically, these altitudes are 8,000 feet MSL eastbound and 8,500 feet westbound. These altitudes vary from 500 feet to 2,000 feet above the comparable fixed-wing tour route altitudes. While at most locations the

altitudes are to some degree above the rim of the canyon, they provide a view of the canyon comparable to that available to the tour operators throughout the canyon. Finally, pilots who elect to operate above 9,000 feet MSL may avoid all restrictions associated with the Special Flight Rules Area.

Accordingly, transient operations are distinguished from commercial tour operations only to the extent that they are assigned a slightly higher altitude stratum, for separation.

Several commenters requested that the FAA simply adopt a single set of tour routes and permit or require all operators to use them, as is done on an advisory basis at Niagara Falls, NY. The FAA rejected this suggestion for several reasons. First, it would tend to concentrate all aircraft overflights of the canyon at certain altitudes, resulting in compression of traffic. Second, the tour routes are more complex than those appropriate for a transient operator's one-time flight over the canyon, and it was not practical to develop a single set of routes which served both purposes. Also, conveying the degree of information required to operate on the existing air tour routes would require a briefing of the transient pilot.

Commenters objected to such a briefing requirement, and the FAA found it to be impractical from a resource standpoint in any event. Finally, the models offered for common routes, such as Niagara Falls, NY, involved small areas with very simple procedures. The size of the Grand Canyon, the complexity of the canyon terrain, and the high altitudes involved make a simple, common procedure for all operators impractical.

Impacts on commercial air tour operations.

In comments on Notice 86-21, the Grand Canyon Flight Operators Association (GCFOA) and others expressed concern about delays in approval of the operators' Part 135 operations specifications prior to implementation of the temporary rule. However, all operators that have applied for the operations specifications amendments have received approval at this time.

GCFOA and several individual tour operators generally supported the regulation. Grand Canyon Airlines suggested that commuter airline standards be applied to all Part 135 operators conducting tour flights at the canyon. The FAA believes that the application of Part 135 standards to all commercial tour operators is sufficient, and that the added imposition of

commuter standards to all operators is not required.

The National Transportation Safety Board (NTSB) strongly supported the prohibition on commercial operations conducted under Part 91 in the Special Flight Rules Area. The NTSB also supported the requirement that commercial operators comply with approved routes and altitudes and make position reports on common frequencies. No other comments were received objecting to the prohibition on commercial tour flights under Part 91.

Commercial helicopter operations.

Individual commercial helicopter tour operators at the Grand Canyon, as well as the GCFOA and the Helicopter Association International (HAI), objected to the requirement to remain at least 500 feet from terrain in the canyon. HAI and the individual helicopter operators also requested that helicopters be authorized to operate below the rim of the canyon. The primary objection to the 500-foot restriction was that it would make helicopter tours of the Anasazi ruins near Point Sublime commercially infeasible, because the ruins could not be viewed adequately from 500 feet away. One operator stated that it currently hovers approximately 100 feet away from the ruins on its current tours. Operators also claimed that the restriction made helicopter tours less competitive with fixed-wing tours.

The FAA proposed the 500-foot limitation for both environmental and operational reasons. The rule does not affect fixed-wing Part 135 operations, which are already required by FAR 135.203 to remain 500 feet from terrain. The rule does serve a safety purpose with respect to Part 91 operations, which are not restricted as to distance from terrain in sparsely populated areas (as long as they remain 500 feet from persons, vehicles, boats, and structures). In addition, the limit provides an environmental buffer against aircraft flight which is unnecessarily close to the terrain and the wildlife of the GCNP. While neither environmental groups nor the NPS provided information to support any specific impact of aircraft overflight on wildlife or other park values (such as the Point Sublime archeological site), the FAA believes that the unique characteristics of the Park, and the congressional statement of policy in the Grand Canyon National Park Enlargement Act of 1975, warrant a greater degree of protection for the surface of the Park than is provided by the general minimum safe altitude restrictions in FAR 91.79.

One helicopter operator enclosed a copy of a study by Professor D.S. Brumbaugh on the effects of helicopter flights on the Point Sublime Anasazi site. The study did not consider long term fatigue effects on the structure, but concluded that excessive ground velocity/acceleration and resonant shaking of the walls by a single helicopter would not result in damage. However, the study was based on a minimum distance of 300 feet. The operator who submitted the study represented that "current lateral separation from the ruins is maintained at approximately 100 feet." Because the study did not address long term effects, and because the study conditions were more favorable than those of actual tour flights, the FAA does not agree that information available at this time warrants a conclusion that no protection for the site is appropriate.

Boundaries of the Special Flight Rules Area

The Truxton Canyon Agency noted FAA's statement in the preamble to the proposal that commercial operations to Indian reservations in the Special Flight Rules Area would be authorized, but the Agency requested that this be included in the language of the rule itself. The FAA will not deny any landowners in the Special Flight Rules Area aerial access to their land, including the Indian reservations in the area. Accordingly, the FAA does not believe that it is necessary to include in the rule a statement to the effect that access will continue to the reservations.

The Bureau of Land Management of the Department of the Interior and the Forest Service of the Department of Agriculture both requested that the northern boundary of the Special Flight Rules Area be amended to exclude certain lands administered by these agencies. Both commenters were concerned that the regulation would interfere with their air operations over the government land. The FAA has not altered the boundaries of the Special Flight Rules Area as it was proposed, and that area is indicated on the April 9 edition of the Las Vegas Sectional Aeronautical Chart. However, in response to these comments, the purposes for which authorizations for operation in the Special Flight Rules Area have been expanded to include "aerial access to and maintenance of other property located within the Special Flight Rules Area." Accordingly, the Las Vegas Flight Standards District Office will accommodate any requests by pilots for these agencies for operations over their respective land

north of the Grand Canyon National Park.

The National Park Service and several other commenters requested that the Special Flight Rules Area be expanded to include the entire Grand Canyon National Park, especially the northern area up to Marble Canyon. The Special Flight Rules Area boundaries are simpler than the Park boundaries, and several small areas of the Park are excluded. The FAA does not intend to alter the Special Flight Rules Area boundary for this purpose at this time. However, the FAA will monitor the effect of excluding the Marble Canyon area from the rule, and will consider the possible extension of the Special Flight Rules Area to Marble Canyon in the future.

The Special Rule

For the reasons discussed above, the FAA is revising Special Federal Aviation Regulation 50, with the revisions to take effect on the expiration of SFAR 50 on June 15, 1987, and to expire on June 15, 1992. SFAR 50 as amended, designated as SFAR 50-1, will do the following:

1. Continue the Grand Canyon National Park Special Flight Rules Area from the surface to 9,000 feet MSL. The area will be marked on aeronautical charts and described in other pilot information publications.

2. Prohibit operation by any aircraft in the defined area unless (a) the operator complies with specific route and altitude procedures for transient aircraft; (b) the operator is authorized in writing by the FAA Las Vegas Flight Standards District Office to operate in the airspace, (c) the operator holds a Part 135 certificate and has express authorization in its Part 135 operations specifications to operate in the airspace, or (d) the aircraft is on an official search and rescue mission. For flights authorized under paragraph (b) or (c), the authorization will contain specific limitations on the operation, including minimum altitudes. Minimum allowable flight altitudes will be approximately the rim level of the canyon unless there is an operational need for flight below that level (such as landing at one of the reservations). The terms "rim" or "rim level" are not used to describe altitude restrictions in the authorizations because the north and south rims are at different levels and because the rim is too variable in elevation to constitute a practical flight reference for pilots.

3. Prohibit operation in certain noise-sensitive areas unless necessary for emergency or Park-related purposes.

4. Prohibit commercial tour operations below 9,000 feet MSL by Part 91

operators unless they obtain a Part 135 certificate and operations specifications which authorize operation in the Grand Canyon National Park Special Flight Rules Area.

5. Prohibit, except when necessary or when specifically authorized for certain purposes, flight closer than 500 feet to any terrain or structure in the canyon.

6. Require pilots to monitor certain common frequencies and make position reports as specified in their authorization to enter the airspace.

Analysis by section

Section 1 provides that the rule applies to all persons operating under VFR in certain airspace from the surface to 9,000 feet MSL and defines the boundaries of that airspace. Applying the rule to all persons has the effect of applying the rule to military as well as civil pilots. Aircraft operating under IFR would not be operating at the altitudes or in the area covered by the rule. (With the exception of a small portion of VOR airway in the northeast corner of the area, the base of controlled airspace within the designated area is at 9,000 feet MSL or higher.)

Airspace up to 9,000 feet MSL is restricted to include sufficient airspace to permit aircraft to operate at different altitudes for nonconflicting eastbound and westbound operations, for fixed-wing and helicopter operations, and for commercial air tour and transient sightseeing flights. Capping the special area at 9,000 feet MSL permits overflight of the canyon at 9,500 feet without restriction.

The lateral boundaries of the area extend beyond the limits of the park itself to include all of the areas that are commonly subject to canyon sightseeing overflights, including certain Indian reservation land, and to provide simplified boundaries for practical compliance by pilots. Were possible, the boundaries have been established coincident with VOR radials to enable pilots to use aircraft navigation equipment to locate their position in relation to a boundary line. A cutout from the area has been provided for the GCMP Airport control zone, in recognition of the need for aircraft to descend to and climb out from the airport. The two published instrument approaches to the GCMP Airport are from the southwest and will not be affected by procedures established by this rule.

Section 2 of the rule defines the term "Park" as the Grand Canyon National Park, and "Special Flight Rules Area" as the Grand Canyon National Park Special Flight Rules Area.

Section 3 of the rule sets forth the requirement for authorization for aircraft to operate in the Special Flight Rules Area. An exception to the general requirements is made for emergencies, to clarify that a bona fide emergency landing in the canyon would not violate this rule.

Section 3 prohibits flight in the Grand Canyon National Park Special Flight Rules Area unless the operator complies with specific procedures, routes, and altitudes; unless authorization is obtained from the Las Vegas Flight Standards District Office; or unless the aircraft is on an Air Force-directed search and rescue mission.

Paragraph (a) permits operation over the canyon without further authorization from the FAA if the pilot complies with one of four specific procedures. The four basic routes are an eastbound route at 8,000 feet MSL; a westbound route at 8,500 feet MSL; a west canyon route between Pearce Ferry and Diamond Creek at 6,000 feet MSL eastbound and 6,500 feet MSL westbound; and a direct route from Grand Canyon National Park Airport to Las Vegas. Pilots flying the three tour routes will be required to remain to the right of the river and to avoid the noise-sensitive areas identified in the rule.

Paragraph (b) provides that operation in the area is not prohibited if authorized in writing by the Las Vegas FSDO and conducted in accordance with the conditions of that authorization. The rule states that authorization will normally be provided only for operations of aircraft necessary for law enforcement, firefighting, emergency medical treatment or evacuation of persons in or near the park; for support of park maintenance or activities; or for aerial access to or maintenance of property located within the area. As mentioned earlier, the NPS has a continuing need for aircraft access to the canyon surface by NPS and contractor aircraft for a wide range of purposes related to operation of the park. The written authorization for such operations will contain conditions similar to those included in the air tour operator's operations specifications. This will ensure that operations in the Special Flight Rules Area are using common procedures and radio frequencies and that the incidence of low altitude aircraft flights is kept to the minimum necessary for operation of the park.

It is not the FAA's intent to deny air access to any surface point within the Special Flight Rules Area. Flights requested by the NPS, Bureau of Land Management, Forest Service, or by representatives of the Indian reservation

landing areas will be authorized subject to the standard conditions imposed on all operators within the area. Other requests for flight through the area below the altitude of the routes described in section 3(a), including general aviation and military sightseeing flights, will normally be denied.

However, the FAA acknowledges that there may be circumstances in which it would be appropriate to grant authorization for a Part 91 operator to operate in the Special Flight Rules Area using the same routes and procedures used by the Part 135 operators.

Paragraph (c) provides that specific authorization may be incorporated in the operations specifications issued to a Part 135 operator. Operations specifications are detailed rules and conditions for commercial operations which are issued to each holder of a Part 135 certificate. To FAA's knowledge all of the operators currently conducting commercial air tours of the Grand Canyon hold Part 135 certificates. The Las Vegas FSDO, in cooperation with the active tour operators, has developed specific conditions and limitations on the Grand Canyon operation of each such operator. Those conditions and limitations will be included in the operations specifications of each tour operator and will be enforced by the FAA. The provisions will include detailed requirements for routes, altitudes, communications and other procedures, and for pilot experience and equipment.

Authorization through operations specifications will permit continuation of the air tour industry at the Grand Canyon. The industry successfully serves a certain segment of the demand for tourist access to the Grand Canyon and has done so with an impressive safety record over the years. The restrictions promulgated in this rule will, however, make the procedures now voluntarily used by most operators mandatory and enforceable. Second, the prescription of certain minimum altitudes will require some operators to fly at higher altitudes on their tours, in some areas, than they have in the past. The minimum altitudes specified in the operations specifications will in most cases be an MSL altitude near to the approximate elevation of the south rim in each sector of the canyon.

Paragraph (c) will also permit continuation of commercial operations to Indian reservations within the Special Flight Rules Area. Such flights are routinely conducted for tourism at the reservations, for pick-up of river rafters, and for aerial supply and transportation services to the reservations. Operators conducting these flights must hold Part

135 certificates and operations specifications and will be subject to the same general restrictions as the tour operators consistent with the nature of their operations.

Paragraph (d) permits search and rescue (SAR) aircraft under the direction of the U.S. Air Force Rescue Coordination Center to enter the area without prior coordination with the Las Vegas FSDO. SAR missions over the canyon are very infrequent.

Section 4 prohibits operation by all aircraft in 5 defined areas of the Grand Canyon, except in an emergency or when otherwise necessary for safety of flight, or unless authorized by the Las Vegas Flight Standards District Office for a purpose listed in section 3(b). These areas are:

- (a) *Toroweap overlook.*
- (b) *Thunder River/Deer Creek Falls/Tapeats Creek.*
- (c) *South Rim/Phantom Ranch.*
- (d) *North rim Overlook.*
- (e) *Desert View.*

Section 5 requires all commercial sightseeing operations to be conducted under a Part 125 certificate, notwithstanding the exception to Part 135 applicability contained in § 135.1(b)(2). The requirement will prohibit tour operations by Part 91 operators, under § 135.1(b)(2), over the canyon below 9,000 feet MSL. To the agency's knowledge all operators currently providing commercial sightseeing flights over the Grand Canyon hold Part 135 certificates, although operations by Part 91 operators have been common in the past.

Section 6 prohibits operation within 500 feet of terrain in the canyon except (1) as necessary for takeoff or landing; (2) if authorized by the Las Vegas FSDO for one of the park operation purposes listed in section 3; or (3) in an emergency. This provision applies the Part 135 restrictions of § 135.203(a)(1) to all operators. The restriction provides certain minimum protections to unique park terrain, wildlife, and archaeological sites until the effect of low altitude aircraft flight can be determined.

Section 7 requires that pilots operating in the area monitor certain frequencies and make radio position reports at the points specified in their authorization. Transient operators will be required to monitor the common frequencies but not to make position reports, in consideration of their lesser familiarity with the terrain features used for reporting points. The FAA believes that the use of common frequencies and periodic reporting of aircraft location, similar to the procedure for a Common Traffic Advisory Frequency at

uncontrolled airports, significantly reduces the risk of midair collision. Therefore, this procedure is made mandatory. Exceptions are incorporated for aircraft required to be in contact with the GCNP control tower or on a USAF-directed search and rescue mission.

The requirement in section 7(b) that all operators monitor certain frequencies has the effect of requiring that all aircraft operating in the Special Flight Rules Area have an operating radio transceiver. The FAA believes that this requirement is important not only for receiving traffic information, through reports by other aircraft, but also for receiving the current Grand Canyon altimeter setting. The altimeter setting in the area often varies considerably from that at Las Vegas or other airports from which Grand Canyon overflights frequently originate. Failure to obtain a current setting could result in operation less than 500 feet from traffic operating at another assigned altitude. The agency believes the impact of the requirement is minimal because virtually all overflying aircraft have radios and because no-radio aircraft may still overfly the canyon above 9,000 feet MSL.

Section 8 provides that SFAR 50-1 will expire on June 15, 1992. The expiration in 5 years will provide for a review of the rule following completion of a Department of Interior noise study and after an extended period of experience with flight operations under the rule.

Request for Comments

While this SFAR is a final rule, the FAA is requesting comments on the provisions of the rule adopted. This further request for comments is in consideration of the great diversity of opinion expressed in the comments received to date, and in recognition of the fact that the transient routes and noise-sensitive areas, while proposed in substance, were not identified in detail until publication of this rule. This rule may be amended in consideration of comments received.

The agency specifically requests comments on the following issues:

1. The dimensions of the Special Flight Rules Area.

Boundaries

The northern boundary of the Special Flight Rules Area could be adjusted to provide more operating space for the Tuweep and Whitmore airports, and to avoid inclusion of Bureau of Land Management and Forest Service lands not related to the Grand Canyon. Second, it may be appropriate to add a northeast extension of the Special Flight

Rules Area along the Grand Canyon to Marble Canyon, in consideration of operational and environmental problems with low-altitude aircraft flight in this area. Such an extension would be approximately the width of the Grand Canyon and would extend northeast from the existing boundary as far as the Page Airport Traffic Area.

Altitude

Minimum altitudes for air tour operations and transient sightseeing flights have been established by this rule. Because of the lower terrain of the Grand Canyon in the central and western areas of the canyon, it would be possible to reduce the upper limit of the Special Flight Rules Area in these areas. Possible altitudes could be surface to 8,000 feet MSL in the central sector (Diamond Creek to Havasu Canyon), with a 9,000-foot area around Toroweap Overlook, and surface to 6,000 feet MSL in the western sector (west of Diamond Creek).

Such an action would not reduce the minimum altitudes for aircraft flight over the canyon and would not affect the noise-sensitive area restrictions. It would continue to separate transient and air tour traffic, but could relieve the need to provide special routes for transient aircraft in the western part of the canyon.

2. The dimensions of the noise-sensitive areas described in Section 4 of the SFAR.

Specifically, comments are requested on any operational problems of the areas adopted and, conversely, whether any of the areas could be expanded without significant operational impacts.

3. The transient operating routes and altitudes established in section 3(a) of the SFAR.

Comments are due by October 15, 1987, to the address listed under "ADDRESSES" earlier in this document.

Regulatory Evaluation

Benefit-Cost Analysis

The regulatory evaluation prepared for this final rule examines the costs and benefits of special flight rule requirements in the vicinity of the Grand Canyon National Park. This rule impacts operators of airplanes and helicopters under FAR Parts 91 and 135 by adopting the following flight restrictions:

(1) Retain the Special Flight Rules Area established by SFAR 50 from the surface to 9,000 feet MSL in the area of the Park; (2) prohibit flights in this area unless operated in accordance with specific routes, altitudes, and procedures or otherwise specifically authorized by the Las Vegas FSDO; (3)

establish boundaries of certain noise-sensitive areas of the Park to be avoided by aircraft overflight up to 9,000 feet MSL; and (4) establish certain terrain avoidance and communications requirements for flights in the area.

Costs

The FAA estimates that the total incremental cost of compliance expected to accrue from implementation of the rule to be negligible. This rule potentially impacts two types of operators (airplane and helicopter) under Parts 91 and 135.

Under Part 91, there are three general classes of operators. The cost impact, if any, on each these operators is briefly described below:

Transient operators represent those local or cross-country general aviation operators who overfly the Park, primarily for sightseeing but also for point-to-point transit. This rule will permit such operators to fly only at specific altitudes while in the Special Flight Rules Area. Although such altitudes will be higher than in recent years, the gratification from viewing the Park is not expected to be significantly reduced. Also, because of the altitude of the terrain, the minimum altitudes specified in the rule will not significantly increase the cost of climbing to altitude for overflight of the canyon.

Part 91 Commercial Tour Operators. Prior to SFAR 50, commercial tour operations under Part 91 in the area were conducted under an exemption from Part 135. This rule will eliminate such operations. It will prohibit commercial tour operations below 9,000 feet MSL by Part 91 operators, although an operator may obtain a Part 135 certificate. Ordinarily, the additional Part 135 training, maintenance requirements, etc., would impose additional costs. However, such costs are not expected to materialize. According to personnel at the Las Vegas FSDO, there have not been any Part 91 commercial operations in the Park since June 1986, though prior to this time there were a small number. The lack of these operators in the area is borne out by the fact that no comments were received from any such operator. Therefore, the FAA estimates that the number of such operators who would have entered the Park over the next four years, if any, would be small. For this reason, the cost impact, if any, on Part 91 commercial tour operators is expected to be negligible.

Other aircraft operators in the area include law enforcement officials, fire fighters, emergency medical teams, Park

maintenance staff, Bureau of Land Management and Forest Service contractors, etc., which may be conducted under Part 91 or Part 135 depending on the operator and the nature of the operation. Prior to SFAR 50, they operated freely over the Park. This rule will allow them to continue operations if they obtain written authorization from the Las Vegas FSDO and comply with conditions of the authorization. Thus, since this rule will not cause any significant changes in necessary flights for such operators, the cost impact, if any, is estimated to be negligible.

Under Part 135, operators of airplanes and helicopters will potentially be impacted. This rule will impose three requirements on these operators. Two of these requirements represent specific routes and altitudes. These two requirements will not significantly affect their operations because virtually all of the operators already voluntarily limit their flight to specific routes that roughly coincide with the routes that will be required by the Las Vegas FSDO under this rule. The new routes will avoid noise-sensitive areas, and the deviations around these areas are neither expected to have an increase in air tour operation costs nor to reduce the quality of the air tour package by excluding popular sites from the routes. Most of these operators voluntarily maintain separation between their respective tours and have traditionally operated at altitudes similar to those in this rule. Although prior to SFAR 50, they could deviate from those altitudes and routes at will, the new regulatory procedures, which include 500- or 1,000-foot separation between helicopters and airplanes, along with the specified higher altitudes, are not perceived by tour operators to impose significant, if any, costs. The third requirement will prevent operators from operating within 500 feet of terrain or structures. For airplanes, this requirement has no cost, because the 500-foot restriction is already incorporated in Part 135, § 135.203. Part 135 helicopter operations are not subject to the § 135.203 restriction, however, and will be affected by the provision in this rule. This requirement is not expected to have a significant cost impact in terms of loss of revenue from sightseeing as some operators have indicated, because most passengers on these helicopter tours take the tours largely for the experience of the helicopter ride rather than close inspection of any particular terrain or structure.

The requirement in section 7(b) that all operators monitor certain frequencies

has the effect of requiring that all aircraft operating in the Special Flight Rules Area have an operating radio receiver. While all Part 135 operators would be equipped with radios, there may have been a few no-radio Part 91 operations in the past. The agency believes the impact of the requirement will be minimal because virtually all overflying aircraft have radios and because those few aircraft without radios may still overfly the canyon above 9,000 feet MSL.

Benefits

This rule is expected to generate benefits in terms of enhanced safety and to some extent reduced noise in the Park. Safety benefits will take the form of reduced likelihood of fatalities from midair and canyon wall collisions. Aircraft noise will be reduced by rerouting Parts 91 and 135 traffic around noise-sensitive areas.

This rule will improve safety by regulating both Part 91 and Part 135 operators in the Special Flight Rules Area. In the past, there have been a few cases of Part 91 aircraft colliding with the terrain, and one case of a midair collision involving a Part 135 aircraft. This rule is expected to reduce the likelihood of such accidents, especially those involving general aviation pilots unfamiliar with terrain and wind patterns. Further, by specifying procedures, routes, and minimum separation distances for Parts 91 and 135 operators, this rule will enhance safety. The FAA estimates safety benefits in monetary terms by assigning a value of \$1 million to each of the lives that are expected to be saved annually as a result of implementing this rule. A recent review of the NTSB data base for Parts 91 and 135 accidents in the vicinity of the Park, revealed that over the past 12 years at least four accidents have occurred and resulted in 41 fatalities. Over this 12-year period, the safety situation near the Park has resulted, on average, in three fatalities annually. While the large majority of the fatalities occurred in two incidents involving air tour aircraft, the projection of three fatalities per year as an average is useful for the purpose of estimating economic benefits of the rule. Therefore, estimates of safety benefits are based on the belief that this rule will reduce the likelihood of three fatalities annually. Supporting this premise is the fact that two of the four accidents noted previously involved only Part 91 operators, and the rule will substantially restrict such operations at low altitude in the canyon area. In monetary terms, safety benefits are expected to amount

to an estimated \$3 million annually (in 1986 dollars) as the result of this rule.

Another benefit of this rule is aircraft noise reduction. This benefit is extremely difficult to quantify in monetary terms due to its intangible nature. Thus, it is viewed in this evaluation as a qualitative benefit and is assumed to be measured only in terms of gratification. The reduction in aircraft noise that will result from the deviation around noise-sensitive areas and from the higher flight altitudes, especially by Part 91 operators, is expected to increase enjoyment from sightseeing on the ground on the part of tourists and environmentalists, though to what extent cannot be estimated by the FAA.

On balance, in view of the expected cost of compliance and benefits, the FAA concludes that this rule is cost-beneficial.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress in order to insure, among other things, that small entities are not disproportionately affected by Government regulations. The RFA requires agencies to review rules which may have a "significant impact on a substantial number of small entities." For purposes of the RFA, small entities are considered to include small businesses, non-profit organizations, and municipalities but not private individuals. The vast majority of the small entities potentially impacted by this rule are unscheduled Part 135 air taxi operators with nine or less aircraft owned. As a result of using the cost of compliance, which is estimated to be negligible, per small entity and comparing it to the annualized threshold of significant economic impact (\$3,700 in 1986 dollars) the FAA concludes that a substantial number of small entities will not be substantially impacted by this rule.

Trade Impact Assessment

This rule is expected to have neither an adverse impact on the trade opportunities for U.S. firms doing business abroad nor on foreign firms doing business in the United States. This assessment is based on the fact that Part 135 air tour operators impacted by this rule do not compete with similar operators abroad, and their competitive environment is confined to the Grand Canyon area.

Conclusions

For the reasons set forth above under Regulatory Evaluation, the FAA has determined that this final rule (1) is not a major rule under Executive Order

12291, and (2) is not considered significant under Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). For the reasons set forth above under Regulatory Flexibility Determination, I certify that, under the criteria of the Regulatory Flexibility Act, this rule will not have a significant impact on a substantial number of small entities.

Publication Date

This amendment is effective on June 15, 1987, less than 30 days after publication in the Federal Register, in order to prevent the expiration of SFAR 50 before the amendment, SFAR 50-1, takes effect. The provisions of SFAR 50 are already in effect, and the Special Flight Rules Area is charted on the current Las Vegas Sectional Aeronautical chart. This amendment continues certain of the restrictions in SFAR 50 and relieves other restrictions (as in the case of the minimum altitudes for transient operations), but does not impose any additional restrictions. Accordingly, I find that 30 days notice before publication is not required by 5 U.S.C. 553(d) and that, in any event, good cause exists for publication less than 30 days before the effective date.

List of Subjects in 14 CFR Parts 91 and 135

Aircraft, Aviation safety, Air taxi and commercial operators, Grand Canyon.

Adoption of the Special Federal Aviation Regulation

For the reasons set out above, 14 CFR Parts 91 and 135 are amended as follows:

1. The authority citation for Part 91 continues to read:

PARTS 91 AND 135—[AMENDED]

Authority: 49 U.S.C. 1301(7), 1303, 1344, 1348, 1352 through 1355, 1401, 1421 through 1431, 1471, 1472, 1502, 1510, 1522, and 2121 through 2125; Articles 12, 29, 31, and 32(a) of the Convention on International Civil Aviation (61 Stat. 1180); 42 U.S.C. 4321 et seq.; E.O. 11514; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983).

2. The authority citation for Part 135 continues to read:

Authority: 49 U.S.C. 1354(a), 1355(a), 1421 through 1431, and 1502; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983).

3. Special Federal Aviation Regulation No. 50 in Parts 91 and 135 is redesignated as Special Federal Aviation Regulation No. 50-1 and is revised to read as follows:

Special Federal Aviation Regulation No. 50-1

Special Flight Rules in the Vicinity of the Grand Canyon National Park, AZ

Section 1. Applicability

This rule prescribes special operating rules for all persons operating aircraft under VFR in the following airspace, designated as the Grand Canyon National Park Special Flight Rules Area:

That airspace extending upward from the surface to and including 9,000 feet MSL within an area bounded by a line beginning at lat. 36°09'30" N., long. 114°03'00" W.; northeast to lat. 36°14'00" N., long. 113°12'00" W.; to lat. 36°30'00" N., long. 112°36'00" W.; to lat. 36°30'00" N., long. 111°42'00" W.; to lat. 35°59'30" N., long. 111°42'00" W.; to lat. 35°57'30" N., long. 112°03'20" W.; thence counterclockwise via the 5 statute mile radius of the Grand Canyon Airport airport reference point (lat. 35°57'09" N., long. 112°08'47" W.); to lat. 35°57'30" N., long. 112°14'00" W.; to lat. 35°58'00" N., long. 113°11'00" W.; to 35°42'30" N; long. 113°11'00" W; to lat. 35°38'50" N; long. 113°27'00" W; thence counterclockwise via the 5 statute mile radius of the Peach Springs VORTAC to lat. 35°41'20" N; long. 113°36'00" W; thence to the point of beginning.

Section 2. Definitions

For the purposes of this special regulation.

"Park" means the Grand Canyon National Park.

"Special Flight Rules Area" means the Grand Canyon National Park Special Flight Rules Area.

Section 3. Aircraft operations: General

Except in an emergency, no person may operate an aircraft in the Special Flight Rules Area unless the operation—

(a) Is conducted in accordance with the following procedures:

Note: The following procedures do not relieve the pilot from see-and-avoid responsibility or compliance with FAR 91.79.

(1) Unless necessary to maintain a safe distance from other aircraft or terrain—(i) Avoid all areas described in section 4; and

(ii) Remain to the right of the Colorado River, with the river off of the left wing of the aircraft.

(2) Eastbound—(i) Entry. From LAS/west: From LAS/Lake Meade area, enter the Special Flight Rules Area (crossing the Peach Springs VOR 308° radial) at 8,000 feet MSL. Cross the Shivwits Plateau. Cross the Colorado River and turn to follow the river eastbound.

Alternate LAS entry: Follow Alternate 2 of the west canyon procedure under

paragraph (a)(5)(ii) of this section and transition to the eastbound route east of the Shivwits Plateau.

From Peach Springs area: From Peach Springs/south, cross the Peach Springs VOR 058° radial northbound at 8,000 feet MSL. Intercept and follow the Colorado River north, and maintain 8,000 feet MSL.

(ii) En route: Maintain 8,000 feet MSL and follow the Colorado River. Approaching Great Thumb Mesa (at or before intercepting Grand Canyon VOR 300° radial) turn to the southeast for approach to Grand Canyon National Park Airport or for transit through the airport traffic area. Remain south of the south canyon rim and the Grand Canyon VOR 300° radial.

(3) Northbound from GCN. Depart Grand Canyon National Park Airport to the east and climb to 8,000 feet MSL. When clear of the Desert View Overlook noise-sensitive area (Grand Canyon VOR 19 DME), turn north along the 19 DME arc to intercept the Colorado River. Follow the river to the north.

(4) Westbound—(i) Entry. From the east/northeast: Enter the Special Flight Rules Area in the vicinity of the Little Colorado River at 8,500 feet MSL. Cross the Colorado River and follow the river westward. Remain close to the river except as necessary to avoid noise-sensitive areas identified in Section 4.

From the north/Marble Canyon: Enter the Special Flight Rules Area along the Colorado River at 8,500 feet MSL. Follow the river to the west. Remain close to the river except as necessary to avoid noise-sensitive areas identified in Section 4.

From GCN: Depart the airport to the east and climb to 8,500 feet MSL. When clear of the South Rim/Phantom Ranch noise-sensitive area (Grand Canyon VOR 10 DME), turn north and intercept the Colorado River. Cross the river and turn left to follow the river to the west. Maintain 8,500 feet MSL. Remain close to the river except as necessary to avoid noise-sensitive areas identified in Section 4.

(ii) En route. Maintain 8,500 feet MSL and follow the river to the west. Approaching the Shivwits Plateau (Peach Springs VOR 005 degree radial), proceed west across the Plateau or continue to follow the river at 8,500 feet MSL until clear of the Special Flight Rules Area. Remain alert for other aircraft using the GCN-LAS direct route described in paragraph 3. (a)(6).

(5) West canyon procedure—(i) Eastbound leg. Cross the Peach Springs VOR 310° radial eastbound at 6,000 feet MSL. Intercept and follow the Colorado

River on a southeasterly heading. Maintain 6,000 feet MSL.

(ii) *Return/transition to enroute.* At Diamond Creek (between Peach Springs 025° to 030° radials), where the river turns to the north, comply with one of the following procedures:

Alternate 1. Begin climb to 6,500 feet MSL, turn left to cross the river and follow the river back to the west. Maintain 6,500 feet MSL.

Alternate 2. Begin climb to 8,000 feet MSL and continue to follow the river to the north. Level off at 8,000 feet MSL by Parashant Canyon (or Peach Springs VOR 010° radial) and join main eastbound route described in paragraph (a)(2)(ii) of this section.

(7) *GCN-LAS direct route.* Proceed direct from GCN to Pearce Ferry at 8,500 feet MSL. Remain alert for commercial tour aircraft using the same route.

(8) *Exit from the area.* A pilot operating on one of the routes listed in section 3(a) may exit the area at any time by climbing to an altitude above 9,000 feet MSL.

(b) Is authorized in writing by the Las Vegas Flight Standards District Office and is conducted in compliance with the conditions contained in that authorization. Normally authorization will be granted only for operations of aircraft necessary for law enforcement, firefighting, emergency medical treatment/evacuation of persons in the vicinity of the Park; for support of Park maintenance or activities; or for aerial access to and maintenance of other property located within the Special Flight Rules Areas. Authorization may be issued on a continuing basis.

(c) Is conducted in accordance with a specific authorization to operate in that airspace incorporated in the operator's Part 135 operations specifications and approved by the Las Vegas Flight Standards District Office. Normally, operations specifications for tour operators will not contain authorization to operate below 2,500 feet MSL in the canyon west of Diamond Creek; 5,500 feet MSL between Diamond Creek and Havasu Canyon; and 6,500 feet MSL from Havasu Canyon east. Or

(d) Is a search and rescue mission directed by the U.S. Air Force Rescue Coordination Center.

Section 4. Noise—sensitive areas

Except in an emergency or if otherwise necessary for safety of flight, or unless otherwise authorized by the Las Vegas Flight Standards District Office for a purpose listed in section 3(b), no person may operate an aircraft in the Special Flight Rules Area within the following areas:

(a) *Toroweap Overlook.* Within a 1½ statute mile radius of Toroweap Overlook (north rim at Lava Falls).

(b) *Thunder River/Deer Creek Falls/Tapeats Creek.* Within an area bounded on the south by a line 1 statute mile north of the Colorado River and on all other sides by a circle with a 5-statute mile radius centered on Thunder River Falls.

(c) *South Rim/Phantom Ranch.* Within an area bounded on the west by the Grand Canyon VOR 335° radial; on the south by the Grand Canyon VOR 5 DME arc and the 072° radial to 10 DME; and on all other sides by the 10 DME arc of the Grand Canyon VOR (except when necessary for arrival or departure at Grand Canyon National Park Airport or Tusayan Airport on a route authorized by the Las Vegas Flight Standards District Office).

(d) *North Rim Overlook.* Within an area bounded on the north by the Grand Canyon 20 DME arc; on the west by the Grand Canyon VOR 350° radial; on the south by the Grand Canyon VOR 13 DME arc; and on the east by the Grand Canyon VOR 035° radial to 16 DME, then on a north-south line to the 20 DME arc.

(e) *Desert View.* Within an area between the 14 DME arc and the 19 DME arc of the Grand Canyon VOR, south of the Grand Canyon VOR 050° radial and north of the southern boundary of the Special Flight Rules Area.

Section 5. Commercial sightseeing flights

(a) Notwithstanding the provisions of Federal Aviation Regulations

§ 135.1(b)(2), nonstop sightseeing flights that begin and end at the same airport, are conducted within a 25 statute mile radius of that airport, and operate in or through the Special Flight Rules Area during any portion of the flight are governed by the provisions of Part 135.

(b) No person holding or required to hold an operating certificate under Part 135 may operate an aircraft in the Special Flight Rules Area except as authorized by operations specifications issued under that part.

Section 6. Minimum terrain clearance

Except in an emergency, when necessary for takeoff or landing, or unless authorized by the Las Vegas Flight Standards District Office for a purpose listed in section 3(b), no person may operate an aircraft within 500 feet of any terrain or structure located between the north and south rims of the Grand Canyon.

Section 7. Communications

Except when in contact with the Grand Canyon National Park Airport Traffic Control Tower during arrival or departure or on a search and rescue mission directed by the U.S. Air Force Rescue Coordination Center, no person may operate an aircraft in the Special Flight Rules Area unless he—

(a) Transmits a position report on the appropriate frequency at each reporting point designated in the operator's Part 135 operations specifications or written authorization to operate in that airspace issued under Section 3, and

(b) Monitors the appropriate frequency continuously while in that airspace.

Section 8. Termination date

This Special Federal Aviation Regulation expires on June 15, 1992.

Issued in Washington, DC, on June 5, 1987.

Donald D. Engen,
Administrator.

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