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**REGULATORY EVALUATION,
REGULATORY FLEXIBILITY ANALYSIS,
INTERNATIONAL TRADE IMPACT ASSESSMENT, AND UNFUNDED
MANDATES ASSESSMENT**

FINAL RULE

**COMMERCIAL AIR TOUR LIMITATION
IN THE
GRAND CANYON NATIONAL PARK
SPECIAL FLIGHT RULES AREA**

**OFFICE OF AVIATION POLICY AND PLANS
OPERATIONS REGULATORY ANALYSIS BRANCH, APO-310
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Executive Summary

This regulatory evaluation examines the costs and benefits of the final rule that will temporarily limit the number of commercial air tours that may be conducted in the Special Flight Rules Area of the Grand Canyon National Park. This rule is necessary as part of an effort to achieve the statutory mandate imposed by Public Law 100-91 of providing substantial restoration of natural quiet and experience in Grand Canyon National Park.

The estimated 10-year cost of this regulation will be **\$155.4** million or **\$100.3** million, discounted. The majority of the impact of this regulation will be **\$154.3** million (**\$99.6** million, discounted), in lost revenue (net of variable operating costs) due to the imposition of air tour operations limits. After two years, this requirement may be reviewed and subject to change. At the end of the two years review, the cost in lost revenue will be **\$13.2** million (**\$11.9** million, discounted). The status of the quiet technology rulemaking and the Comprehensive Aircraft Noise Management Plan will also be taken into consideration at that time. The estimated 10-year cost of the other provisions to air tour operators, which includes (1) reporting four times annually, (2) filing of flight plans, (3) transfer of allocations and (4) requesting modifications and initial allocations, is **\$30,000** or **\$23,000**, discounted, FAA costs include those associated with initial allocations, annual recording and tracking, transfers of allocations, and filing of flight plans. These FAA 10-year costs are estimated at **\$1.06** million (**\$746,400**, discounted).

Exceptions to the operations limitation will be granted to certain operators conducting air tours the **Hualapai** Reservation. By granting these exceptions, the **Hualapai** Indian Tribe will benefit from **\$4.9**

million (\$3.1 million, discounted) in cost relief over the same 10-year period.

One benefit of this rule is its contribution toward meeting the **statutory** mandate of substantially restoring natural quiet in Grand Canyon National Park (**GCNP**). Quantifiable benefits are the use benefits perceived by individuals from the direct use of a resource such as hiking, rafting, or sightseeing. The estimated 10-year use benefits for ground visitors **only**, as a result of this rule, are \$20.36 million, discounted at 7 percent (assuming only the air tour limitation rulemaking is implemented). In addition to these use benefits, this rulemaking may generate non-use benefits. The non-use benefits of this rule along with the associated rule and commercial air tour routes notice include reduction in existing commercial air tour aircraft noise impacts to certain traditional cultural properties of importance to several Native American Tribes and Nations in the vicinity of the Grand Canyon National Park (however, some traditional cultural properties in the vicinity of the direct routes from Las Vegas to the Grand Canyon Airport will **receive** an increase in noise). Related benefits to these Native Americans include protection of their religious practices from interference from overhead commercial air tour aircraft flights. The FAA, at this time, does not have adequate data to estimate any of these non-use benefits of commercial air tour aircraft noise reduction at the Grand Canyon **National** Park and adjacent traditional cultural properties, but believes that **they** are significant. The FAA is promulgating this rule in response to a congressional mandate.

The final rule will impose a significant economic impact on a substantial number of small entities. In terms of international trade, the rule **will** neither impose a competitive trade disadvantage to U.S. air carriers operating domestically nor to foreign air carriers deplaning or **enplaning**

passengers within the United States. This rule does not contain any Federal intergovernmental or private sector mandates. Therefore, the requirements of Title II of the Unfunded Mandates Reform Act of **1995** do not apply.

1. Introduction

This document contains an analysis of the costs and benefits of the Federal Aviation Administration (FAA) Final Rule that will temporarily limit the number of commercial air tours that may be conducted in the Special Flight Rules Area (**SFRA**) of Grand Canyon National Park (**GCNP**). The final rule also will revise the current reporting requirements for commercial air tours and add Visual Flights Rules (**VFR**) flight filing requirements to enable the FAA to monitor and enforce the operational limitation. These changes will allow the FAA and the National Park Service (**NPS**) to limit and further assess the impact of aircraft noise on **GCNP**.

In addition, this rule promulgates non-substantive changes to **14 CFR** part **93** subpart U to improve the organization **and** clarity of the rule. This rule is one part of an overall strategy to control or reduce aircraft noise on the park environment and to assist the **NPS** in achieving its statutory mandate imposed by Public Law **100-91** of providing substantial restoration of natural quiet and experience in Grand Canyon National Park.

The primary intended benefit of this rule is its contribution toward achieving this statutory mandate, and is estimated two ways in this analysis. First, **an estimate** is made (based on the Integrated Noise Model (**INM**) of the percent advancement the rule would provide toward **the** goal. Second, **an estimate** is made (based on consumer surplus analysis) of the increased dollar value of enjoyment that the rule will contribute towards ground visitors, due to reduced future aircraft noise in the park. However, this latter **estimate has** to be reduced to reflect the decreased value of enjoyment attributed to future consumers of air **tours** denied this means of viewing the Grand Canyon as a result of the rule.

The costs of this rule fall into the following **categories**¹:

- Reduced net operating revenue to commercial air tour operators;
- Increased commercial air tour operator costs of complying with the additional reporting requirements; and
- Increased FAA costs of on-going processing and analysis of the additional data provided by commercial air tour operators (e.g. tracking and monitoring flight plan detail; uploading and analyzing quarterly report information; and managing allocations including transfers).

A) History

To address the problems associated with increasing air tour traffic over **GCNP**, the FAA initiated regulatory action in the summer of **1986**, and then issued Special Federal Aviation Regulation (**SFAR**) No. **50** on March **26, 1987**, establishing a special flight rules area (**SFRA**) and flight regulations in the vicinity of the park (**52 FR 9768**). The FAA regulatory action and subsequent **SFAR** followed a midair collision between two commercial air tour aircraft over **GCNP** on June **18, 1986**.² The **SFAR** was designed to reduce the risk of midair collision and **terrair** contact accidents below the rim level. These requirements were modified and extended by **SFAR 50-1 (52 FR 22734, June 15 1987)**.

This **SFAR** was further modified on May **27, 1988**, when the FAA issued **SFAF** No. **50-2**, revising the procedures for aircraft operation in the airspace above the **GCNP (53 FR 20264, June 2, 1988)**. **SFAR** No. **50-2** also extended the **SFRA** from the surface to **14,499** feet above mean sea level (**MSL**) in the area of the Grand Canyon. The following were implemented under **SFAF**

¹ Although not a cost consideration in this rulemaking, the FAA also has determined that this rule will result in a reduction in **GCNP** income (overflight and visitor gate fees) to the National Park Service.

² The midair collision involved a de Havilland **DHC-6**, Twin Otter and a Bell Jet Ranger helicopter and resulted in **25** fatalities. The Twin Otter was operated under part **135** by Grand Canyon Airlines, Inc. and the helicopter was operated under part **91** by **Helitech**, Inc. which no longer conducts commercial air tours in the Canyon.

50-2 as well: 1) prohibited flight below a certain altitude in each of the five sectors of this area, with certain exceptions; 2) established four flight-free zones from the surface to 14,499 feet MSL; and 3) provided for special routes for air tours.

In 1987, Congress enacted Public Law 100-91, commonly known as the National Parks Overflights Act. Public Law 100-91 stated, in part, that "noise associated with aircraft overflights at GCNP [was] causing a significant adverse effect on the natural quiet and experience of the park and current aircraft operations at the Grand Canyon National Park have raised serious concerns regarding public safety, including concerns regarding the park users' safety."

Section 3 of Public Law 100-91 required the Department of Interior (DOI) to submit to the FAA recommendations to protect resources in the Grand Canyon from adverse impacts associated with aircraft overflights. The law mandated that the recommendations provide for "substantial restoration of the natural quiet and experience of the park, protection of public health, and safety from adverse effects associated with aircraft overflight."

In December 1987, the DOI transmitted its "Grand Canyon Aircraft Management Recommendation" to the FAA, which included both rulemaking and non-rulemaking actions. Public Law 100-91 required the FAA to prepare and issue a final plan for the management of air traffic above the GCNP, implementing the recommendations of DOI without change unless the FAA determined that executing the recommendations would adversely affect aviation safety.

A second major provision of section 3 of Public Law 100-91 required the DOI to submit a report to Congress discussing "whether the plan has

succeeded in substantially restoring the natural quiet in the park; and ... such other matters, including possible revisions in the plan, as may be of interest."

On September 12, 1994, the DOI submitted its final report and recommendations to Congress. This report, entitled, "Report on Effects of Aircraft Overflights on the National Park System" (Report to Congress), was published in July 1995. The Report to Congress recommended numerous revisions to SFAR No. 50-2 in order to substantially restore natural quiet in GCNP. Recommendation No. 10, which is of particular relevance for this rulemaking, states: "Improve SFAR 50-2 to Effect and Maintain the Substantial Restoration of Natural Quiet. at Grand Canyon National Park." This recommendation incorporated the following general concepts: simplification of the commercial sightseeing route structure; expansion of the flight-free zones; accommodation of the forecasted growth in the air tour industry; proposing phase-in noise efficient/quiet technology aircraft; temporal restrictions ("flight-free" time periods); use of the full range of methods and tools for problem solving; and institution of changes in approaches to park management, including the establishment of an acoustic monitoring program by the NPS in coordination with the FAA.

On June 15, 1995, the FAA published a final rule that extended the provisions of SFAR No. 50-2 to June 15, 1997 (60 FR 31608), pending implementation of the final rule adopting DOI's recommendations.

On December 31, 1996, the FAA issued a final rule (61 FR 69302) implementing many of the recommendations set forth in the NPS report including: flight-free zones and corridors; minimum flight altitudes; general operating procedures; curfews in the Dragon and Zuni Point Corridors; and a cap on the number of commercial sightseeing aircraft

that could be operated by air tour operators in the **SFRA**. This final rule was issued concurrently with a Notice of Proposed Rulemaking regarding Noise Limitations for Aircraft Operations in the Vicinity of Grand Canyon National Park; a Notice of Availability of Proposed Commercial Air Tour Routes for Grand Canyon National Park and Request for Comments; and an Environmental Assessment. The final rule was originally scheduled to become effective May 1, 1997.

On February 26, 1997, (62 FR 8861) the FAA published a delay of the effective date to January 31, 1998, for those portions of the December 31, 1996, final rule that (1) define the Grand Canyon **SFRA** (14 CFR 93.301), (2) define the flight-free zones and flight corridors (14 CFR 93.305), and (3) establish minimum flight altitudes in the vicinity of the **GCNP** (14 CFR 93.307). The February 26, 1997, final rule also reinstated the corresponding sections of **SFAR 50-2** until January 31, 1998 (flight-free zones, the Special Flight Rules Area, and minimum flight altitudes). On December 17, 1997, the effective date for these sections was delayed to January 31, 1999 (62 FR 66248). On December 7, 1998, the effective date for 14 CFR 93.301, 93.305, and 93.307, was delayed until January 31, 2000 (63 FR 67543).

The FAA's final rule was challenged before the U.S. Court of Appeals for the District of Columbia Circuit by the following petitioners: Grand Canyon Air Tour Coalition; the Clark County Department of Aviation and the Las Vegas Convention and Visitors Authority; the **Hualapai** Indian Tribe; **and** seven environmental groups led by the Grand Canyon Trust. The Court ruled in favor of the FAA and upheld the final rule.

Interagency Working Group

On December 22, 1993, Secretary of Transportation **Federico Peña** and Secretary of the Interior Bruce Babbitt formed an interagency working group (**IWG**) to explore ways to limit or reduce the impacts from overflights on national parks, including the **GCNP**. Secretary Babbitt and Secretary **Peña** concurred that increased flight operations at **GCNP** and other national parks have significantly diminished the national park experience for some park visitors, and that measures can and should be taken to preserve a quality park experience for visitors, while providing access to the airspace over the national parks. The FAA has been working closely with the **NPS** to identify and deal with the impacts of commercial air tours on the **GCNP**.

The **IWG's** goal through this rulemaking is to prevent the aircraft noise situation from worsening. Concurrently, with this final rule, the FAA also is issuing a Notice of Availability of Routes; Disposition of Comments whereby it indicates certain modifications to routes through the **SFRA**; and a final rule establishing airspace modifications.

The FAA also continues to work on the rulemaking initiated on December 31, 1996 proposing quiet technology aircraft. All of these steps are aimed at reducing the impact of aircraft noise in the **GCNP**. Once the commercial air tour limitation and the new routes are implemented, the FAA and **NPS** will be able to more closely determine whether these noise mitigation strategies have resulted in substantial restoration of natural quiet or whether additional steps should be taken to reach the statutory goal.

President's Memorandum

The President, on April **22, 1996**, issued a Memorandum for the Heads of Executive Departments and Agencies to address transportation impacts on national parks. Specifically, the President directed the Secretary of Transportation to issue proposed regulations for **GCNP** that would place appropriate limits on sightseeing aircraft to reduce the noise immediately and make further substantial progress towards restoration of natural quiet, as defined by the Secretary of the Interior, while maintaining aviation safety in accordance with Public Law **100-91**.

This memorandum also indicated that, with regard to overflights of the **GCNP**, "should any final rulemaking determine that issuance of a further management plan is necessary to substantially restore natural quiet in Grand Canyon National Park, the Secretary of Transportation, in consultation with heads of relevant agencies will complete within 5 years a plan that addresses how the Federal Aviation Administration and the National Park Service" will achieve the statutory goal. Any such plan shall be completed not more than **12** years from the date of this directive (**2008**).

Proposed Rules

On July **9, 1999**, the FAA published two **NPRM's** (Notice **99-11** and Notice **99-12**) to assist the **NPS** in achieving the statutory mandate imposed by Public Law **100-91** to reduce the impact of aircraft noise from commercial air tours on Grand Canyon National Park (**GCNP**). In the **1994** Report to Congress, the **NPS** had identified air tour aircraft as a significant contributor of aircraft noise in the **GCNP**.

Notice 99-11, Modification of the Dimensions of the Grand Canyon National Park Special Flight Rules Area and Flight Free Zones, (64 FR 37296, Docket No. 5926) proposed to modify the dimensions of the Grand Canyon Special Flight Rules Area (SFRA). The proposed changes to the SFRA would modify the eastern portion of the SFRA, the Desert View Flight-Free Zone (FFZ), the Bright Angel FFZ and the Sanup FFZ. Notice 99-12, Commercial Air Tour Limitations in the Grand Canyon National Park Special Flight Rules Area, (64 FR 37304, Docket No. 5927) proposed to limit the number of commercial air tours that may be conducted in the SFRA and to revise the reporting requirements for commercial air tour operations in the SFRA; this rulemaking finalizes this rulemaking.

While the FAA sought comment on all parts of the NPRM's, the FAA specifically requested commenters to address the following matters in Notice 99-12:

- Whether the FAA should use a 5 month peak season (May - Sept), a three month peak season (July - September), or no peak season for purposes of assigning allocations;
- Whether the time reported on the quarterly report should be expressed in Universal Coordinated Time (UTC), Mountain Standard Time, or another time measurement;
- Whether reporting should be imposed as a condition of an FAA Form 7711-1 Certificate of Waiver or Authorization and, if so, whether the requirements of proposed § 93.325 would be appropriate for such operations;
- Whether 180 days is a proper measurement of time for the use or lose provision proposed in § 93.321;
- Whether the initial allocation reflects business operations as of the date of this notice; and

- Whether the allocations should remain unchanged for any specific period of time.

On July 20, 1999, the FAA published a notice announcing two public meetings on the **NPRM**. The meetings, which were held on August 17 and 19, 1999, in Flagstaff, AZ and Las Vegas, NV, respectively, sought additional comment on the **NPRM's** and on the draft supplemental environmental assessment.

Comprehensive Noise Management Plan

The Comprehensive Noise Management Plan (**CNMP**) is the overall process that the Federal Government will use to control and monitor noise conditions in **GCNP** to achieve the statutory goal of substantial restoration of natural quiet. This plan is part of the **NPS's** overall effort to reduce noise levels from all sources within the park, as called for in the **NPS's 1995 General Management Plan**.³

As discussed above, the effective **date** for a portion of the **1996** final rule was delayed. Additionally, the **NPRM** for Noise Limitations for Aircraft Operations in the Vicinity of Grand Canyon National Park has not been finalized. As a consequence the FAA and **NPS** have had to delay the process of developing a noise management plan. Work to date has primarily focused on developing a database of air tour operations and developing a plan to improve noise modeling at the Grand Canyon.

³ Noise reduction steps completed or currently in progress by **NPS** at the **GCNP** include: contracting for the use of a quiet technology aircraft (**MD-900 NOTAR**) and an airplane to use for emergency and administrative needs; planning for light rail, electric buses and other mass transit systems to reduce traffic congestion; converting to new quieter **outboard** motors for boats on the Colorado River; implementing road restrictions; and wilderness management planning using, in part, noise related indicators and standards.

B) Commercial Air Tour Industry Profile

The Grand Canyon is the most active commercial air tour location in the United States. Based on Grand Canyon air tour operator response to the reporting requirements contained in §93.317 and comments containing additional statistical detail, the FAA has revised its original estimates for the first full year of reporting (May 1, 1997 through April 30, 1998) - hereafter referred to as the baseline period, from approximately 88,000 to 90,000 commercial air tours. These air tours provided aerial viewing of the Canyon to about 642,000 passengers, and accounted for just under \$100 million (\$99.3 million) in revenue.⁴

According to the United States Air Tour Association (USATA), for each \$1 spent on an air tour of the Canyon, an additional \$1.50 in air tour related revenue is generated. This suggests a GCNP air tour multiplier of 2.5. The nearly \$100 million in revenue resulting from GCNP air tours alone, therefore, would approximate \$250 million in combined revenue from air tours and other air tour related business.'

About 50 percent of the air tours conducted over the Grand Canyon originate at one of four airports located in Las Vegas and surrounding

⁴ These estimates do not take into account the tours conducted in pressurized aircraft operated above the SFRA by one of the operators. The FAA estimates the number of such tours to have ranged between 1,500 and 2,000 from May 1, 1997 through April 30, 1998. This would account for another 60,000 to 80,000 air tour passengers during the baseline period.

⁵ The FAA estimates that about \$4 million of the additional revenue generated by commercial air tours is a result of the so-called overflight fee assessed air tour operators by the NPS, as well as gate fees assessed air tour passengers taking the ground portion of an air/ground tour package.

area (point-to-point).⁶ Forty-seven percent originate at Grand Canyon Airport in **Tusayan** (fixed-base, non-stop) and the remaining 3 percent originate elsewhere.' According to air tour operators, the tours operate at about **90** percent of aircraft seating capacity on average during the year, but vary by operator, type of tour, and season.

The FAA has also evaluated the new data for the time period May **1, 1998** through April **30, 1999** (the year following the baseline period). It appears that the overall air tour business has declined for the Grand Canyon air tour industry. FAA data shows that the change in total Grand Canyon air tours dropped from **90,000** to **85,000** or **5.7** percent from the original baseline period. The overall decline in Grand Canyon air tours, however, is not uniform among the air tour markets within the Canyon. The Las Vegas airplane operators of air tours reported the most significant drop of **16.3** percent, a decline likely reflecting the serious impact of the Asian crises on this market. The customer base for these air tours is drawn largely from Japanese and other Pacific Basin populations. The Las Vegas helicopter tour market, which draws from a customer base comprised primarily of North Americans, reported a **27.0** percent growth between the baseline period and May **1998** - April **1999**.⁸ On the east-end, the **Tusayan** and other airplane operators' air

⁶ The four airports are **McCarran** International and North Las Vegas Airports in Las Vegas; Boulder City Municipal Airport in Boulder City, NV; and Henderson Executive Airport in Henderson, NV. One helicopter operator's base of operations is located on Las Vegas Blvd., also known as the "strip", in downtown Las Vegas. This operator currently conducts only "air only" tours inside the **GCNP SFRA**; his primary tour business appears to be scenic tours of Las Vegas, not subject to this rulemaking.

⁷ Other originating points include Page, **Sedona**, Flagstaff, and Phoenix, AZ, as well as Santa Fe, NM and **Bryce** Canyon, UT. Several of the air tours offered by these operators, particularly those operating out of Page and **Bryce** Canyon, are "air only" tours of which the Grand Canyon is only one of the sites viewed during the course of the tour.

⁸ This growth does not include the newly emerging Canyon Descent air tour market. These air tours originate from Grand Canyon West Airport and are conducted outside the **GCNP SFRA**.

tour business declined **8.2** percent, but **Tusayan** helicopter air tours were unaffected (less than a one percent drop, **0.3** percent). The **east-** end air tour customer base is largely North American and Western European.

A comparison of total air tours reported in each of the corresponding trimester reporting periods for **1997-1998** and **1998-1999** gives no clear trend that Grand Canyon air tour business is improving. Although declines in air tours subsequent to the summer seasons are less, business continued to fall through the **1998-1999** reporting period. As can be seen in the following table, the changes in total Grand Canyon air tours between the respective trimesters for **1998-1999** compared to those for **1997-1998** are: **-9.3** percent, **-0.3** percent, and **-5.5** percent.

<u>Total GCNP Air Tours And Percent Change</u>				
	May - Aug	Sept - Dec	Jan - Apr	Total
Baseline Period (May 1997 - April 1998)	42,600	28,325	19,325	90,250
(May 1998 - April 1999)	38,600	28,250	18,250	85,100
Percent Change	(9.4%)	(0.3%)	(5.6%)	(5.7%)

During the baseline period, twenty-four operators filed trimester reports in accordance with **§ 93.317**. Of these, **17** conducted airplane air tours, **6** conducted helicopter air tours and one operator conducted air tours using both types of aircraft. Airplanes range from single engine Pipers and Cessnas with **3** passenger seats to **deHavilland** Twin Otters with **19** passenger seats. Most of the helicopter fleet is comprised of Bell models with seating for **4** to **6** passengers.

Fifty-five percent of the commercial air tours recorded during the baseline period were conducted in airplanes; **45** percent were conducted

in helicopters. The airplane tours accounted for just over 70 percent of the passengers and gross operating revenue. For the baseline year, 229 different aircraft (airplane and helicopters) were operated at one time or another, but on average, about 110 were used each day. On the highest aircraft count day, 161 different aircraft (70 percent of the total available fleet) were utilized. During the winter or on a "weather" day, fewer than 50 (20 percent of the total available fleet) might only be used.

As noted above, GCNP air tour operators offer both airplane and helicopter tours of the Grand Canyon. For each of the two types of aircraft, they offer an extensive and varied range of tour packages. At one end of the spectrum are short, 35 to 55 minute quick 'turn-around' tours in the Grand Canyon's Dragon and Zuni Point Flight Corridors, and 90 minute to 2-hour tours of the Grand Canyon's southwest corner along the Colorado River south of the Sanup Flight-Free Zone. The above tours are known as fixed-base, non-stop or "air only" tours, because they depart from and return to the same airport without an interim landing, these tours are priced between \$70 and \$100 for airplanes and between \$90 and \$160 for helicopters. The heaviest concentration of such tours (about 43,000 in the baseline period) originates from Grand Canyon Airport located at Tusayan, Arizona. By contrast, the number of "air only" tours (both airplane and helicopter) south of the Sanup Flight-Free Zone area was just under 19,000.

At the other end of the spectrum are point-to-point transportation/tour flights or "air-ground" tours, because they provide transportation from one location to another and include a tour of the Canyon along the way. The most popular of these tours (about 25,000 in the baseline period) is an extended day-long airplane tour which includes a guided ground tour featuring the South Rim, IMAX Theater (optional) and Grand Canyon

Village. Most of these tours originate in Las Vegas and fly the breadth of the Canyon before landing at Grand Canyon Airport in **Tusayan**. Among the variations of this basic tour are overnight hotel accommodations at Grand Canyon Village or one of the east-end helicopter tours cited above. The basic tour price is around **\$200**, but can exceed **\$300** depending on the additional tour options.

Helicopter tours available at this same end of the spectrum are half-day excursions to the **Hualapai** Reservation (hereinafter, the Reservation) featuring riverbank or below-rim bluff landings in the west-end region, and **daylong** or overnight excursions to **Supai** Village in the east-end region. The west-end air tours originate in Las Vegas and the east-end air tours originate in **Tusayan**. Both of these helicopter tours accounted for **7,000** to **8,000** air-ground tours during the baseline period. The basic price is about **\$300** for the former and **\$400** for the latter, but prices can range higher in each case depending on the addition of available tour options.

Most west-end helicopter operators providing air tours along the Colorado River to the Reservation have entered into contractual agreements with the **Hualapai** Tribe. The total revenue generated to the Tribe from these agreements, including revenue derived from passengers for the ground tour portion of the package, is estimated to be about **\$1.8** million (**\$2.1** million if the corresponding airplane contracts and tour packages are factored in). Similarly, on the east-end, one helicopter operator is contracted to provide air tour support (operated under FAA Form **7711-1** Certificate of Waiver or Authorization) to the **Havasupai** Indian Tribe; the value of this contractual arrangement is unknown.

The west-end helicopter operators conducting air tours along the Colorado River south of the **Sanup** Flight-Free Zone are permitted to descend to the Canyon floor or to points below the rim once on the Reservation as part of their contractual arrangements with the Tribe. These descents with landings are limited to about **30** minutes each (again, by contractual agreement) and are time coordinated among the operators to maximize the total amount of quiet time for the passengers. A recently introduced option features an airplane tour to and from **Grand** Canyon West Airport with a transfer to a helicopter to descend to the Canyon floor at the airport.

During the summer months air tours are conducted continuously throughout the day with minimal down time between tours. Air tour aircraft also generally operate at nearly full utilization of aircraft seating capacity during this season. During the winter months, however, demand for **GCNP** air tours is reduced and some aircraft are taken out of **GCNP** air tour service and may **re-allocated** for use elsewhere.

About **60** percent of all tours occur during the May-September months. The FAA has also determined that during the summer season, the highest frequency of air tours (just over **13** percent of daily air tours) occurred between the hours of **10** and **11** in the morning. In addition, while just over **50** percent of the tours originating out of Las Vegas occur during this peak season, nearly **70** percent of the tours originating out of **Tusayan** and the other eastern area departure points occur during the summer season.

The **SFRA** routes more heavily used by the air tour operators are as follows:

--Airplane Tours:

- "Blue 1" : This is the most prevalent of all GCNP airplane commercial air tours in terms of numbers of tours, passengers flown, and total revenue generated. It originates at one of the four Las Vegas airports, flies the "Blue 1" route along the North and South Rims, turning south at Mount **Sinyala** and landing at Grand Canyon Airport. Passengers on nearly 90 percent of these tours disembark at this point for extended day-long ground tours before returning along either the "Blue Direct" or "Blue Direct **South**" routes or outside the **SFRA**. These return routes extend over mostly plateau and desert terrain, but provide the most efficient means by which to transport the returning tour passengers. The basic cost of this air/ground tour is about \$200, but ranges in excess of \$300 depending on other available ground tour options. Prior to entering the GCNP **SFRA**, this tour typically overflies Hoover Dam and Lake **Meade**.

A variation of the air/ground tour is the air-only or 'long tour' which reverses from the "Blue 1" route to the "Blue Direct" or "Blue Direct South" route at **Havatagvitch** Canyon. While this tour also offers Hoover Dam and Lake **Meade** as added attractions, it does not land for the ground portion discussed above. The air-only version of the "Blue 1" tour accounts for most of the remaining 10 percent traffic along the Blue 1 route; its basic cost ranges from \$140 to \$150 depending on the operator.

The Blue 1 route as described above, was effectively eliminated in the 1996 Final Rule by the southern expansion of the **Torroweap - Shinumo FFZ**. Air tours have continued on this route, however, because the effective date of the relevant provision of this rule has been delayed until January 31, 2000. In its place, the FAA will make available two direct routes-Blue Direct North and Blue Direct South.

- "Blue 2": Also originating and terminating at one of the four Las Vegas airports, this non-stop tour follows the "Blue 2" route, looping the southwest corner of the Canyon south of the **Sanup Flight-Free Zone** and includes crossing over the Colorado River. The tour route extends as far as Diamond Creek, but most air tours reverse course at Horse Flat Canyon or Spencer Canyon or exit the **SFRA** at Quartermaster Canyon. Tour length ranges from one and one-half to two hours, including the time required to fly to and from Las Vegas. The basic cost is about \$90 and also includes an overflight of Hoover Dam and Lake **Meade**.

A variation of the air tour along the "Blue 2" route is a landing at Grand Canyon West Airport outside the **SFRA** on the Reservation. Passengers can opt for a guided ground tour of the Reservation provided by members of the Tribe and/or a descent to the Colorado River provided by one of the Las Vegas helicopter operators. Reservation ground tour fees are remitted directly to the Tribe by the passengers and are not included in the overall cost of the 'Blue 2" air tour. The helicopter descent to the Colorado is typically part of a more extensive tour package retailing for about \$230 or more.

With the concurrent Notice of Route Availability, the Blue 2 route will be terminated and reversed at the western boundary of Horse Flat Canyon. Also, the **SFRA** exit route through Quartermaster Canyon will be moved east of Quartermaster Canyon. Further use of Quartermaster

Canyon will require a FAA Form 7711-1 Certificate of Waiver or Authorization and contractual agreement with the Tribe.

- **"Black 1, 1A"**: Typically originating at Grand Canyon airport, this non-stop tour follows the "Black 1" route North through the Zuni Point Corridor, turns west and south along "Black 1A" through the Dragon Corridor and terminates at Grand Canyon airport. Total tour time is about 50 minutes; tour cost is about \$70-\$75. A variation on this tour is to remain on the "Black 1" route which includes only the Zuni Point Corridor with tour time and cost reduced to about 35 minutes and \$55.

The Notice of Route Availability published December 31, 1996 restricted the Zuni Point Corridor to a northbound direction only. Weather deviation routes include the Bright Angel Flight-Free Zone Corridor and a northeast breakout to the Painted Desert at the northern end of the Zuni Point Corridor. This Final Rule, however, restores a reverse route for airplanes in the vicinity of Gunther Castle on the new 'Black 2" (SFAR 50-2 'Black 1") route. This will provide for an airplane tour option similar to the "Green 2" helicopter loop of the Dragon Corridor.

- **Warble Canyon Routes/Black 1,1A"**: These air tours are typically conducted by operators not based at Tusayan or Las Vegas and traverse the Marble Canyon Corridor 'Black 4" and 'Black 5" routes in combination with the "Black 1" and/or "Black 1A" routes. They can be either point-to-point (typically, southbound on "Black 5" to "Black 1" or "Black 1A") landing at Tusayan, or fixed-based (typically northbound on "Black 1" to 'Black 4") passing near Tusayan en route to Marble Canyon. Prices from \$100 to \$350 depending on other features of the tour package.

Several other tours enter and exit the GCNP SFRA in the Marble Canyon Corridor north of Tusayan, but typically feature only a brief (less than 5 minutes) view of the Grand Canyon as part of a larger air tour package which includes other sights such as Monument Valley, Lake Powell and the Painted Desert. These air tours retail from \$200 to \$300, but include much which cannot be construed as an air tour of the Grand Canyon.

- **"Fossil Canyon Routes"**: Several kinds of air tours are included under this heading which account for only about 2 percent of all Canyon airplane tours. The common element, however, is that they all traverse the Fossil Canyon Corridor. One air tour originates in Las Vegas flying the "Blue 1" to Towango Point where it transitions to the "Blue 1A" route around the Shinumu Flight-Free Zone and through the Dragon Corridor to Tusayan. This is typically an "air-ground" tour similar to the "Blue 1" air tour. Another air/ground alternative is to transition to the "Brown 1A" route at Supai Point exiting the SFRA at Fire Point en route to Monument Valley.

Air-only options include flying a "Blue 1 Reverse" route from Tusayan airspace to Towango Point and then following the "Blue 1A" route as above, or exiting the SFRA and re-entering along the "Black 6" route in Marble Canyon to the "Black 1" or "Black 1A" back through Tusayan airspace. These tours are typically offered by operators not based at Tusayan or Las Vegas, and range in retail price from \$100 to \$200 depending on the distance traveled before entering the GCNP SFRA.

The December 31, 1996 final rule merged the **Torroweap-Thunder** River and **Shinumu** Flight-Free Zones into the **Torroweap-Shinumu** Flight-free Zone thereby closing the Fossil Canyon Corridor. These changes are scheduled to be implemented on January 31, 2000. Upon full implementation of this rule, the **Blue 1A**, **Brown 1A** and **Green 1A** routes will be eliminated.

--Helicopter Tours:

- **"Green 1, 1A & 2"**: This helicopter tour is equivalent to the 'Black 1, 1A' airplane tour; time and cost is approximately 50 minutes and costs \$150-\$160. A helicopter variation along the "Green 1" route similar to the "Black 1" airplane tour used to be available with tour time and cost reduced to about 40 minutes and \$120, respectively. However, the one-way restriction in the **Zuni Point Corridor** was amended only for the airplane tours. Helicopter tours will no longer be able to reverse in the **Zuni Point Corridor**.
- **"Green 2"**: This tour is the most popular of the Grand Canyon helicopter tours accounting for nearly twice as many tours and passengers as all other helicopter tours combined. The tour is a relatively short up-and-back, or loop, through the **Dragon Corridor**, requiring about 35 minutes to-and-from Grand Canyon airport and retails for about \$90. It is a critical link between the **Tusayan** based operators and the ground (bus) charters, which include an air tour as part of their tour packages.
- **"Green 4"**: The "air only" helicopter tour along the 'Green 4' is equivalent to the "Blue 2" airplane tour. However, most (85 to 90 percent) of the helicopter tours conducted along the "Green 4" include a descent below the rim to the Canyon floor or bluffs just above the floor with a landing option at Grand Canyon West Airport and guided ground tour of the Reservation. The tour also features other amenities while on the Reservation.

The air-only tours typically reverse at Spencer Canyon and the air/ground tours typically exit the **SFRA** at Quartermaster Canyon. All tours include an overflight of downtown Las Vegas upon return. Total time is about two hours for the air-only tour and as much as half a day for the air/ground tour with a base tour price range of \$250-\$350. These tours are a major source of income to the **Hualapai** Indian Tribe (hereinafter, the Tribe).⁹

The Green 4 helicopter tour is modified similar to the Blue 2 in the concurrent Notice of Availability.

- **"FAA Form 7711-1 Certificate of Waiver or Authorization"**: These flights (estimated to be about 1 percent of the total), include the "Brown" airplane and the "Green 3" helicopter routes. These provide aerial support for river rafters as well as economic support to the **Havasupai** Indian Nation. They, like the "air-ground" tours along the "Green 4" tour route, are able to operate below the rim.

⁹ Based on research, the FAA has concluded that the Tribe derives over \$1.7 million in revenue annually from negotiated contracts for landing privileges with the air tour operators. This does not include the revenue derived from air tour passengers who directly pay to the Tribe for guided ground tour on the Reservation.

Most air tour operators, although operating as part 135 on-demand rather than part 121 scheduled operators, are charter operators in that they **pre-book** their flights to ensure maximizing seating capacity. For the Las Vegas air tour operators, the prevalent foreign tour groups are Japanese, Chinese and other Far East Asian populations, estimated to make up from 60 to 90 percent of their passengers. For the **Tusayan** based operators, the more prevalent foreign tour groups are Western European, particularly British and German, and are estimated to **comprise** between 35 percent and 50 percent of their passengers. Tour groups are **pre-booked** by several Las Vegas operators through foreign tour agents at such events as the annual Pow Wow sponsored by the Travel Industry of America (TIA).¹⁰ Another prominent source of charter business upon which the operators of Grand Canyon air tours are dependent is the bus tour industry, which features the Canyon air tours as part of a larger scenic tour package.

Another category of air tour operator in Las Vegas is what is referred to as "**strip**" operators. These operators have entered into contracts with one or more of the large casino-hotels in Las Vegas (or with its consignee) for preferential referral to its guests. Casino-hotel **charter** groups are then made up of guests of one or more of the large **casino**-hotel establishments in Las Vegas. There are also "overflow" operators who pick-up excess passengers on-demand which cannot be accommodated at the time by one of the operators serving a casino-hotel charter group. "Overflow" operators typically have contractual arrangements with

¹⁰ Some operators maintain foreign sales offices and it is estimated that the lead-time required for marketing Canyon tours abroad can take up to one year. Also, many of the Las Vegas operators forecast and adjust their fleet requirements and business needs annually based on charter agreements with foreign tour agencies which have **pre-sold** bookings to Las Vegas as part of a larger U.S. tour. Prior rulemaking comments indicated that advanced bookings are typically made from 3-6 months in advance, but, as already noted, can be as much as one year in advance.

specific air tour operators. The last people who purchase air tours spontaneously ("walk-ups"), are a relatively small percentage of the air tour business.

Air tours, like the overall tour industry itself, are subject to cyclical and seasonal phenomena and are highly susceptible to business cycles abroad as well as fluctuations in international markets and exchange rates.¹¹ Grand Canyon air tour operators experienced a relatively high average annual rate of growth between 1987 and 1993-- between 9.5 percent to 15.0 percent per year. This level of growth, however, could only be sustained if the economic factors and other conditions that prevailed in the 1987-1993 period were to continue. In fact, this growth was not sustained. Grand Canyon air tours declined nearly 15 percent between the 1995 base period used in previous Grand Canyon rulemakings and the baseline period (May 1, 1997 through April 30, 1998) adopted for this rulemaking. For instance, the recent severe economic down turn in Japan and other East Asian markets had an adverse effect on the Las Vegas market and the air tour businesses located there. Las Vegas operators cite this as the most significant factor contributing to the nearly 15 percent drop in air tour business between the 1995 base year, used in previous Grand Canyon rulemakings, and the current baseline period. Another international event that may have contributed to the reduction in air tour business between 1995 and the baseline period is that the 1998 World Cup was held in France. This impacted **Tusayan** operators as a significant part of their European passengers remained at home at the height of the 1998 summer season.

¹¹ Historically, during the 1980's, a particularly volatile period in international economics, Scenic Airlines, one of the larger air tour operators at **GCNP**, experienced a drop in passenger **enplanements** in excess of 50 percent from 210,474 in 1980 to 89,708 in 1983. By 1990, its passenger **enplanements** had climbed to 311,710.

The FAA will use the 3.3 percent compound annual **rate** of growth developed for the 1994-2010 time frame by its Statistics and Forecast Branch (APO-110), in its forecasts because this more modest growth rate for GCNP air tours dampens the above variations and economic **cycles**.¹²

The FAA has determined that the baseline period to be used for the commercial air tour limitation will be the first 12 months (May 1, 1997 through April 30, 1998) during which Grand Canyon air tour operators were required to report under §93.317.

In the initial regulatory evaluation to the proposed rule, the number of air tours, 88,000, was lower than the new revised estimate, of 90,000. The modification adjusted the estimate to account for some error in the original data as well as to address specific documented evidence that

¹² In an internal information paper estimating growth in commercial air tours at GCNP, "Grand Canyon Forecast", the FAA Statistics and Forecast Branch (APO-110) utilized 1994 Terminal Area Forecast (TAF) data in conjunction with air carrier data for five airports from which GCNP commercial air tours originate. These airports were Las Vegas McCarran, North Las Vegas, Grand Canyon Airport, Henderson Executive (Sky Harbor) and Boulder City. The 1994 TAF estimates indicate Grand Canyon operations will increase at a compound annual rate of 3.3 percent over the 16-year forecast period (1994-2010). This compound annual growth rate was derived from the calculated 10-year growth of 43 percent for projected "Grand Canyon" operations, a statistic determined to be within the range of error of the 50 percent estimate noted above.

A more recent, preliminary estimate by the FAA Statistics and Forecast Branch, noted in the NPRM, suggests a lower growth rate of about 2.9 percent. The FAA, however, is continuing to review this estimate. The FAA believes this more recent forecast was influenced too heavily by the temporary economic turndown in the Pacific Rim region, and consequently, the FAA will retain the 3.3 percent compound annual rate of growth in its estimates. Preliminary information regarding the 1999 summer trimester reports from air tour operators suggests that growth for the air tour industry has returned to 3.3 percent.

The FAA also estimates general aviation operations at GCNP Airport at approximately 9,000 in 1987 and 7,000 in 1993, suggesting no increase in general aviation activity. According to the Las Vegas Flight Standards District Office (FSDO), general aviation accounts for about 3 percent of all GCNP overflights.

certain air tour operators provided to the FAA which shows that the original operator count was incorrect.

This increase in air tours for the baseline period has caused adjustments in FAA's initial allocations. In the baseline period, there were 24 air tour operators reporting, 17 of whom conducted air tours over GCNP in airplanes, 6 in helicopters, and 1 operator in a mixed fleet.¹³ Fourteen of these operators base their operations out of Las Vegas and vicinity, five operate out of Tusayan and five are located at other airports; one Las Vegas operator also had substantial operations originating in Page, AZ. The FAA has determined that during the baseline period, these operators utilized 229 different aircraft to conduct Grand Canyon air tours, using an average of about 110 per day.

Of the 229 aircraft identified, 182 were airplanes and ranged from single-engine Piper and Cessna 3-seat models to DeHavilland Twin Otters with 19 passenger seats. Most of the 47 helicopters used for air tours of the Grand Canyon were Bell or Aerospatiale models with seating capacities of four-, five- and six-passenger seats.

The information contained in this regulatory evaluation with regard to air tours, aircraft, and the Grand Canyon air tour industry in general, does not take into consideration air tours conducted by one Las Vegas

¹³ The Grand Canyon commercial air tour industry is a dynamic, constantly evolving industry. Of the 24 operators reporting to the FAA from May 1, 1997 through April 30, 1998, one no longer is operating in the Grand Canyon, and two others sold their Las Vegas based operations to another Las Vegas operator. A fourth operator is currently attempting to reorganize under Chapter 11, Bankruptcy. Currently, the FAA believes there are about 20 operators conducting air tours at the Grand Canyon.

The operator of the mixed airplane and helicopter fleet is treated as two separate business entities in the regulatory evaluation cost analysis. This preserves separateness in assessing cost impacts on the two kinds of aircraft. Thus, the 24 reporting operators are analyzed as 25 separate entities.

operator who used five **Fokker F-27** aircraft with **49-50** passenger seats. This operator conducted Canyon business above the current **SFAR 50-2** ceiling. Consequently, he was not required to report these flights under **14 CFR §93.317**.

The FAA estimated that approximately **642,000** passengers took commercial air tours of the Canyon generating just under **\$100** million in air tour gross operating revenue during the baseline period.¹⁴ Proportionately, air tour passengers flying in airplanes accounted for about **71** percent of all Grand Canyon air tour passengers, and **72** percent of the air tour revenue. Helicopter tours accounted for just under **30** percent of the Grand Canyon air tours and revenue.

With regard to the individual air tour routes, **29.6** percent of all air tours were flown in airplanes along the "**Blue 1**" route, or what is now referred to as the National Canyon Corridor route. However, about **56** percent of all revenue was generated by the various tours conducted along this particular tour route. With regard to the southern **Sanup** Flight-Free Zone, just over **21** percent (**12.4** percent, airplanes and; **8.8** percent, helicopters) of all **GCNP** air tours were flown along the **Sanup** Blue 2 and Green 4 routes in the baseline period. The proportionate revenue was **20.2** percent (**8.1** percent, airplanes and **12.1** percent, helicopters). Taken together, although **51** percent of the Grand Canyon air tours are conducted by Las Vegas operators along these routes, over **76** percent of the Canyon revenue is derived from these tours.

¹⁴ Taking into consideration the multiplier effect developed by the United States Air Tour Association, total revenue for the **GCNP** air tour industry would be just under **\$250** million (**2.5** x **\$99.3** million). Some of this revenue is shared with other vendors (tour bus operators, hotels, etc.) located at **Tusayan** and at the South Rim of the Grand Canyon.

The airplane and helicopter air tours that feature or include the **Dragon** Corridor account for just over **45** percent of all Grand Canyon air tours and about **22.5** percent of total air tour revenue during the same baseline period. Estimates for the **Zuni** Point Flight Corridor are just over **19** percent of all air tours and **12.5** percent of all Grand Canyon air tour revenue.¹⁵ With regard to the Dragon Corridor, **95** percent of the **43,500** east-end airplane and helicopter air tours entered the **Dragon** Flight Corridor during the baseline period.

Utilizing information published in the Economic Values for Evaluation of Federal Aviation Administration Investment of Regulatory Programs, June, 1998, the FAA also developed variable operating cost estimates (crew, fuel and oil, and maintenance costs) for most of the makes and models of aircraft operating in the Canyon. The FAA estimates that for the baseline period, the total variable operating cost for **GCNP** air tour operators was **\$29.2** million, which yields a total revenue net of variable operating costs of **\$70.1** million (**\$99.3** million - **\$29.2** million) as measured in **1998 dollars**.¹⁶

¹⁵ Of the total number of Grand Canyon commercial air tours, nearly **30** percent fly a loop within the Dragon Corridor only, but only about **1** percent fly a loop within the **Zuni** Point Corridor only.

¹⁶ Total revenue net of variable operating costs might also be thought of as the contribution to overhead and profits. Net revenue is not the same as profit; there are other commercial air tour associated costs that will have to be netted out prior to the determination of an accurate profit estimate. Nevertheless, net revenue change is an indicator of change in profitability.

Because variable operating costs were estimated for each type of aircraft operating along each of the different air tour routes in the **GCNP SFRA**, comparisons of the variable operating costs and net **operating** revenue among the different routes similar to those just discussed with respect to total revenue are possible. However, revenue net of variable operating costs (hereinafter, referred to as net revenue) does not alter, the proportionate distribution of air tour dollars by route to any significant degree.

As a concluding note to this section, the FAA also estimates that the total value of the Grand Canyon overflight fees collected from the operators by the **NPS** as well as the estimated gate fees assessed the ground passengers entering the **GCNP** as part of their air/ground tour is in excess of **\$4** million for the baseline period.

2. Discussion of Public Comments

In response to the Notice of Proposed Rulemaking (**NPRM**), there were a number of comments on the economic impact of the commercial air tour limitations regulation on various entities. These comments are divided into the following sections: benefits analysis; costs analysis; regulatory flexibility; international trade; data, methodology, and allocation; reporting requirements and flight plans; impact on air tour operators; impact on the local economy; and impact on The Tribe.

A) Benefits Analysis

The following responds to comments presented in "**An Analysis of Proposed Flight Restrictions at the Grand Canyon National Park: Estimating the costs, Benefits, and Industry Impact of the Proposed Regulation,**" prepared by Mary **Riddel** and **R. Keith Schwer** on August 18, 1999.

Comment: The use of the benefits transfer methodology is inappropriate.

Response: Benefits transfer is mentioned in the natural resource damage assessment regulations promulgated by NOAA under the Oil Pollution Act of 1990 as an acceptable methodology for estimating natural resource values provided that the following three basic issues are considered (see Volume 61 of the Federal Register, page 499, published on 1/5/96).

1. Comparability of the users and resources/services being valued;
2. Comparability of the quantity or quality of resources/services being valued; and
3. Quality of the selected study.

Those issues were considered in the benefits analysis, as summarized below.

1. Comparability of the users and resources/services being valued:
 - A. Backcountry visitors: The estimate of consumer surplus for **GCNP** backcountry visitors relied on a national study involving many types of users and many types of resources/services (Bergstrom and **Cordell 1991**). The consumer surplus value estimated in that study for backpacking was used to estimate the consumer surplus for backcountry visitors at **GCNP**.

The backpackers surveyed in the Bergstrom and **Cordell** study were considered to be comparable to the backcountry visitors at **GCNP** for two reasons. First, the two groups participate in the same activity (backpacking). Second, the national significance of **GCNP** draws a diverse mix of visitors, which was considered comparable to the mix of respondents likely to be included in a national survey. The major difference between the two groups is that **GCNP** probably draws a higher proportion of international

visitors than is represented in the Bergstrom and **Cordell** study. That difference likely biases the estimate of consumer surplus for **GCNP** backcountry visitors downward since empirical evidence suggests that visitors traveling substantial distances are likely to spend more time recreating than those who travel shorter distances, and are therefore likely to gain more consumer surplus (for example, see Smith and **Kopp** (1980), and **Kaoru** (1993)).

The resources/services at **GCNP** are nationally significant as evidenced by consistently high visitation demand (approximately 5.5 million visitor-days in 1998). Therefore, to the extent that **GCNP** resources/services are more highly demanded than those represented in the Bergstrom and **Cordell** study, the estimate of consumer surplus for **GCNP** backcountry visitors used in the benefits analysis is biased downward.

These considerations suggest that the estimate of consumer surplus for **GCNP** backcountry visitors is likely biased downward. That bias was not considered inappropriate since a conservative estimate of benefits will not indicate a higher net benefit from this rulemaking than is supportable by the best studies and data available for this benefits analysis.

- B. River visitors: The estimate of consumer surplus for **GCNP** river visitors relied on a study conducted for the Bureau of Reclamation on Glen Canyon Dam

operations (Bureau of Reclamation 1995). Glen Canyon Dam is immediately upstream of **GCNP**, and the dam's operations directly impact visitor use downstream in **GCNP**. That study evaluated Colorado River users within **GCNP**. Therefore, the users and resources/services considered in that study are the same as those considered in the benefits analysis of this rulemaking.

- C. Other visitors: The estimate of consumer surplus for all other visitors at **GCNP** relied on a study of Bryce Canyon National Park (**BCNP**) (Haspel and Johnson 1982). **BCNP** is located in Southern Utah, and is geographically close to **GCNP**. Like **GCNP**, **BCNP** is nationally known for its scenic views of colorful and unusual eroded geologic formations. The primary visitor activity at **BCNP** is sightseeing, which is consistent with the "other" visitor category at **GCNP**. Given these similarities, the users and resources/services valued in the Haspel and Johnson study were considered to be comparable to those valued for this rulemaking.

2. Comparability of the quantity or quality of resources/services being valued:

- A. Backcountry visitors: As noted in section 1.A above, the resources/services at **GCNP** are nationally significant as evidenced by consistently high visitation demand. Therefore, to the extent that **GCNP** resources/services are more highly demanded and of a

higher quality than those represented in the **Bergstrom** and **Cordell** study, the estimate of consumer surplus for **GCNP** backcountry visitors used in the benefits analysis is biased downward. That bias was not considered inappropriate since a conservative estimate of benefits will not indicate a higher net benefit from this rulemaking than is supportable by the best studies and data available for this benefits analysis

- B.** River visitors: As noted in section 1.B above, the Bureau of Reclamation study valued the same river resources/services as those valued for this rulemaking.
- C.** Other visitors. As noted in section 1.C above, the resources/services valued in the **Haspel** and Johnson study are geographically close to **GCNP**, and possess similar attributes as those valued for this rulemaking (i.e., nationally known for scenic views of colorful and unusual eroded geologic formations).

3. Quality of the selected study:

A. Backcountry visitors: The **Bergstrom** and **Cordell** study was conducted by a recognized university-associated researcher and an U.S. Forest Service researcher. Moreover, this study was published in a peer-reviewed academic journal (*Journal of Leisure Research*), and utilized a generally accepted valuation methodology that is appropriate for backcountry use in **GCNP** (multi-site travel cost

model). Therefore, the quality of this study was considered acceptable.

B. River visitors: The Bureau of Reclamation study was conducted by a nationally recognized university-associated researcher and an established consulting firm. While not published in an academic journal, this study received academic peer-review throughout its design, implementation, and analysis stages. Additionally, this study used a generally accepted valuation methodology that is appropriate for river use in **GCNP** (contingent valuation). Therefore, the quality of this study was considered acceptable.

C. Other visitors. The **Haspel** and Johnson study was conducted by a recognized **university-** associated researcher and an U.S. Department of the Interior researcher. Additionally, this study was published in a peer-reviewed academic journal (Land Economics), and utilized generally accepted valuation methodologies that are appropriate for other visitor uses in **GCNP** (multi-site travel cost model and contingent behavior elicitation). Therefore, the quality of this study was considered acceptable.

For the reasons listed above, FAA and **NPS** believe that the selected studies used in the benefits analysis adequately meet these criteria for the purposes of estimating the likely benefits from this rulemaking.

In a rulemaking conducted under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (i.e., Superfund) on

the "**Type A**" natural resource damage assessment model, the Department of the Interior noted that the use of benefits transfer adequately addressed issues of reliability, and provided the following criteria for its use (see Volume 61 of the Federal Register, page 20571, published on 5/7/96). A brief discussion on how each of these criteria **was** met for this benefits analysis is provided below.

* The benefits transfer should be based on an extensive literature review and consultations with relevant governmental agencies.

The benefits transfer used in this analysis was based on an extensive review of past **and** current economics literature, and on consultations with FAA, **NPS**, the U.S. Environmental Protection Agency, and economic consulting firms.

* The selected study reasonably represents the resource and use under investigation.

As explained in sections **1.A**, **1.B**, and **1.C above**, **each** of the **studies** used in this benefits analysis was considered to appropriately represent the **GCNP** resources and uses valued for this rulemaking.

* The selected study contributes to a reasonable representation of the different regions included in the models.

This criterion **was** intended to assure reliability of the "**Type A**" natural resource damage assessment model throughout the United States. Therefore, it does not

apply to this rulemaking since the resources and user:
concerned are specific to **GCNP**.

- * The selected study was conducted by a recognized **university-**
associated researcher or established consulting firm.

As explained in sections **3.A**, **3.B**, and **3.C** above, each of the studies
used in this benefits analysis was conducted by a recognized
university-associated researcher or established consulting firm.

- * The selected study used an appropriate valuation
methodology.

As explained in sections **3.A**, **3.B**, and **3.C** above, each of the studies
used in this benefits analysis used generally accepted valuation
methodologies that are appropriate for the resources and uses valued
for this rulemaking.

FAA and **NPS** believe that those criteria were met in the benefits
analysis, **as they apply** to this rulemaking.

The "**Type B**" natural resource damage assessment regulations promulgated
under Superfund list benefits transfer (referred to as the "**unit value**
methodology") as **an** acceptable methodology for estimating natural
resource **values (see 43 CFR § 11.83 (c) (2) (vi))**.

Comment: The comment authors suggest an alternative methodology,
contingent valuation, for the valuation of benefits.

Response: While FAA and **NPS** agree that contingent valuation is a
reliable valuation methodology, the agencies considered the best

scientific data available for this analysis in selecting the benefits transfer methodology. With the exception of the FAA noise modeling results, that data included existing economic studies, visitation statistics, and other information that did not require original **research** to produce. The benefits transfer methodology was selected because it does not rely extensively on information produced by original research. Meta-analysis, also mentioned by the comment authors, would not be practicable given the limited number of economic studies that are applicable to this benefits analysis.

Comment: The comment authors suggest that the benefits transfer criteria listed in the benefits analysis are not met by the **HBR/S/HMMH** study of noise in Grand Canyon National Park.

Response: As stated in the benefits analysis, those criteria were intended for use in selecting economic studies. The **HBR/S/HMMH** study is not an economic study. The stated criteria were used, however, in selecting economic studies for the benefits analysis. As explained in sections 1, 2, and 3 above, FAA and **NPS** believe that the studies selected for the benefits analysis meet those criteria.

Comment: The comment authors suggest that the use of the "not at all," "slightly," "moderately," "very much," and "extremely" descriptions in the **HBR/S/HMMH** study is not appropriate since different individuals may have different willingness to pay for noise reduction.

Response: The FAA and **NPS** note that, while the visitor impacts indicated by the **HBR/S/HMMH** study represent averages over a given population, visitor-day values derived from economic studies also represent averages over a given population. Rather, the critical issue is whether the user populations represented in the **HBR/S/HMMH** study and

the selected economic studies are comparable. FAA and NPS believe that those two populations are comparable as explained in sections 1.A, 1.B, and 1.C above.

Comment: The comment authors also state that the 20%, 40%, 60%, and 80% consumer surplus reductions assumed in the benefits analysis to apply respectively to the "not at all," "slightly," "moderately," "very much," and "extremely" descriptions in the HBRS/HMMH study are not appropriate. In contrast, these authors suggest the use of 1%, 3%, 8%, and 10% reductions, anywhere from 5% to 13% of the assumed reduction used in the benefits analysis.

Response: The FAA and NPS believe that the assumed reductions used in the benefits analysis are more appropriate than those suggested by the comment authors. For example, "extremely" is defined in the New Merriam-Webster Dictionary as "very great or intense," "very severe or drastic," "utmost," and "maximum." FAA and NPS believe that an 80% reduction more closely conforms to those definitions, and public's understanding of the term "extremely," than does a 10% reduction. The comment authors failed to acknowledge the sensitivity analysis in the benefits analysis that used 10%, 20%, 30%, and 40% consumer surplus reductions in recognition of the uncertainty in this area. FAA and NPS believe that those alternative reductions appropriately address this uncertainty.

Comment: The assumptions concerning economic "damages" from noise are inappropriate.

Response: The benefits analysis assumes that noise reductions result in a one-to-one percentage increase in benefits. While recognizing that diminishing marginal returns to noise reduction may exist in the relevant levels of noise at Grand Canyon National Park, FAA and NPS are

not aware of any objective evidence to support that possibility or to quantify its impact on the benefit calculations. Therefore, FAA and **NPS** assumed a constant marginal benefit of noise reduction in order to simplify the analysis and to reduce the number of assumptions required in the analysis.

Comment: The benefits analysis failed to take into consideration benefit losses to air tour consumers.

Response: FAA and **NPS** acknowledge that these losses are potentially significant and will take them into consideration in their revision of the benefits analysis. Those losses will potentially result from the limitation on flight operations affecting certain air tour routes.

Comment: The non-use values estimated in a U.S. Bureau of Reclamation study of Glen Canyon Dam operations, and cited in the benefits analysis as suggesting potentially significant non-use benefits from the restoration of natural quiet, **are** not applicable.

Response: FAA and **NPS** acknowledge that the U.S. Bureau of Reclamation study of non-use values is not directly applicable to the analysis of benefits from the restoration of natural quiet. Indeed, in their benefits analysis published for the **NPRM**, the agencies state "While the magnitude of non-use benefits estimated in that study are not directly applicable to this rulemaking, potentially significant non-use benefits associated with aircraft noise reduction are suggested." FAA and **NPS** believe that potentially significant non-use benefits will likely **result** from the restoration of natural quiet due to the national significance of Grand Canyon **National Park**.

Comment: The 3% discount rate used in the benefits analysis seems to be chosen arbitrarily.

Response: The 3% discount rate used in the benefits analysis is supported by a number of detailed studies, including the Freeman (1993) study cited by the comment authors. Indeed, Freeman states (on page 216) "I would feel comfortable using a rate of 2 to 3%, at least where the streams of benefits and costs accrue to people in the same generation." In their benefits analysis, FAA and NPS estimated benefits over a 10-year period. The agencies believe that those benefits would accrue to people in the same generation.

Other Revisions to the Benefits Analysis

In order to improve the benefits analysis, FAA and NPS revised its estimates in two significant ways. First, different percentage impacts of aircraft noise on GCNP visitors were used. The GCNP visitor survey of noise impacts (HBRS, Inc. and Harris, Miller, Miller, & Hanson, Inc. 1993) indicates that different visitor groups are variously affected by aircraft noise. In the original benefits analysis, FAA and NPS used estimates from that survey of aircraft noise impacts on visitors' ability to appreciate natural quiet within GCNP. However, natural quiet is but one attribute of a visit to GCNP. Therefore, in the revised benefits analysis, the agencies used estimates from the same survey of aircraft noise impacts on visitors' ability to enjoy GCNP, a more inclusive measure. FAA and NPS believe that those estimates better reflect the overall impacts of aircraft noise on GCNP visitors than what was originally used for the NPRM.

The second significant revision of the benefits analysis involved improved GCNP visitation data. The original benefits analysis used visitation data from 1997. Beginning in 1998, GCNP revised its

visitation data collection procedures, resulting in a reduction in the estimate of river visitors. NPS believes that those revised procedures better reflect actual visitation than those used in 1997.

The effect of these two revisions was to reduce the estimate of use benefits from aircraft noise associated with this rulemaking.

B) Costs Analysis

Comment: One commenter states that the cost estimates failed to include additional FAA staff to process VFR flight plans and problems associated with plans that fail to be closed.

Response: Although not explicitly stated, the FAA believes that the added requirements of processing VFR flight plans associated with this proposed rulemaking could be done with the existing staff. FAA field service stations have again indicated that the processing of VFR flight plans can be accommodated with existing resources. The FAA in this final rulemaking will make the point explicit.

Comment: Other commenters contend that the FAA and NPS have greatly underestimated the costs of the proposed rule. Some commenters talked of reduced viewing time and consumers' willingness to pay for a flight whose aesthetic experience is diminished. One air tour operator commenter states that the FAA suggestion to raise fares in order to compensate for the decrease in the number of flights is unappealing to the average American, and over time may lead to price fixing.

Response: The FAA has carefully reviewed the cost components of this proposed rule. If the length of viewing time or aesthetic experienced

is diminished, the FAA revised various operators' fixed and variable operating costs to account for these changes.

In terms of the FAA suggestion that air tour operators could price fix, the FAA does not advocate and did not suggest that these air tour operators engage in price-fixing. However, to the extent that operators can raise prices, the FAA assumes they would raise their prices.

Comment: A commenter argues that certain cost components such as transaction costs and net capital costs were not included in the computation of costs. The **commenter** states that: "Flight restrictions, especially those based on deviations from long-run demand, will alter the size and number of aircraft that enable firms to be efficient, forcing firms to alter their fleet in an attempt to remain competitive."

Response: This final rule, if it were to remain in effect indefinitely, would provide air tour operators an incentive to switch to large aircraft to carry more passengers per operation. The FAA, however, is committed to take some action to phase out noisy aircraft. The cost components that the **commenter** mentioned above will be considered in **this** later rulemaking.

Comment: A **commenter** states that the publicity of these **FAA-NPS NPRM's** has already altered banking institutions' perceived risks of financial obligations with the air tour industry in general.

Response: The FAA believes that the publicity of the **FAA NPRM's** has already altered banking institutions' perceived risks of financial obligations with the air tour industry in general. The FAA also agrees

with the comment that an air tour operator cannot possibly anticipate what all of the ramifications of the allocation rule would be and is sure that each company would be impacted differently. Any rule that results in added cost to an affected entity would alter the perceived risks of financial obligations. This cost is unquantifiable.

Comment: This **commenter** states that he/she cannot possibly anticipate what all of the ramifications of an allocation rule would be and is **sure** that each company would be impacted differently.

Response: This **commenter** is correct in that the FAA did not have information to predict the future business decisions of these operators and therefore, for some operators, the costs may be underestimated, and for others, overestimated. The FAA believes that each company would be impacted differently. Each company has different financial obligations owns different aircraft, owns different aged aircraft, etc. that will have a different impact on the future. Due to these differences, therefore, it is inconceivable that the costs associated with each company would be **same**. **However**, with the available data, the FAA still believes that it has made a reasonable attempt to determine the costs of the final rule for the **GCNP** air industry as a whole.

Comment: One **commenter** states that the economic evaluation does not consider an air tour operator's investment in what he considers to be quieter, more costly aircraft. This operator adds that the costs of an air tour operation are fixed (e.g., cost of aircraft and insurance costs), regardless of how many hours are flown.

Response: **As** far as an air tour operator's investment in quieter, more expensive aircraft is concerned, the cost analysis evaluated the

variable operating cost of each model of aircraft. Therefore, the variable cost of quieter, more costly aircraft currently being used by that operator was considered when evaluating the cost of this final rule. On the other hand, since the model is not a dynamic model, the FAA could not model any change in costs associated with an operator choosing to switch over time from more noisy aircraft to more quiet ones after the rule becomes effective. Nevertheless, the FAA concedes that these quieter aircraft are expected to have higher capital and variable operating costs than the noisier aircraft.

Comment: A **commenter** states that the new routes would require airplane operators to fly a significantly longer route than helicopters. This would increase the costs of airplane operators.

Response: The **commenter** is correct. The FAA, in its cost model, did factor in those impacts associated with the operators who as a result of this final rule would have to fly longer routes.

Comment: A **commenter** notes that under the proposed restrictions, it would not be able to both plan and to operate profitably. According to this operator, the FAA has stated that air tour operators may move excess aircraft to other uses in order to offset losses caused by the operations limitation. However, according to this operator, the FAA has failed to account for the fact that such redeployment will cause significant financial costs.

Response: The FAA acknowledges that some operators may have to move excess aircraft to other uses. The operator will utilize his/her aircraft in those ways where the alternate opportunity associated with his/her use of the aircraft is the greatest. As stated previously,

since the model is not a dynamic model, the FAA could not model any change in costs associated with an operator choosing to switch from operating his/her aircraft in one location versus an alternative one.

Comment: One **commenter** states that the regulatory analysis failed to analyze producers' surplus and thus either understated the benefits or overstated the costs. The **commenter** states that since the FAA analyzed the consumers' surplus of this proposed rule, then it should analyze the appropriate counterpart, or producers' surplus. This **commenter** defines producers' surplus as the difference between what the productive services of a resource owner earns in his/her occupation and the **minimum** he/she is willing to accept to stay there.

Response: The FAA did not explicitly measure producers' surplus. The FAA does not have the information to analyze this portion of the cost equation.

C) Regulatory Flexibility Analysis

Comment: An air tour operator believes that while there may not be a relative disadvantage among air tour operators in terms of being disproportionately impacted there is an absolute disadvantage both in time consumption and economic impact to implementing these reporting requirements.

Response: The FAA agrees that there are positive costs to the regulations. The costs **are** not larger for the smaller of the small operators. In relative terms, they may be larger but not significantly larger.

Comment: Other operators claim that the regulatory evaluation violates the requirements of the Regulatory Flexibility Act and **SBREFA**.

Response: The FAA disputes the fact that it violated the requirements of the Regulatory Flexibility Act and **SBREFA**. The FAA believes that this regulatory evaluation is in compliance with the **RFA** and **SBREFA**. Moreover, the FAA has been in contact with both the Small Business Administration (**SBA**) and the Office of Management and Budget (**OMB**) during the course of this rulemaking, and on no occasion did either agency indicate that the FAA was not in compliance with the **RFA** and **SBREFA**.

Comment: A commenter states that the economic analysis shows that the impact on small businesses has serious defects.

Response: The commenter did not elaborate on why and how the impact on small businesses has serious defects. However, the analysis for the proposed rulemaking stated that this rule would have a significant impact on a substantial number of small entities.

D) International Trade Impact

Comment: Several air tour operators argue that the economic analysis failed to address the impact on international trade. One operator says that 50 percent of its customers are foreign nationals. Other commenters state that 90 percent of Las Vegas based carriers' passengers are foreigners. The Grand Canyon Air Tour Council (**GCATC**) states that a survey of the southern Nevada based air tour passengers done by the Center for Business and Economics Research at the University of Nevada, Las Vegas (**UNLV**) indicates that in recent years, over 90 percent of the

clients are international visitors. In addition, the **GCATC** suggests that air tours are service exports and the proposed FAA rulemaking will have a negative effect on the United States balance of trade. These **commenters** note that the FAA was incorrect to state that the Notice of Proposed Rulemaking (**NPRM**) would not have a significant impact on international trade and should be recognized by the Office of Management and Budget.

Response: The FAA maintains its position, stated in the economic analysis, that the incremental impact of this rulemaking will not affect United States international trade. The FAA agrees that some air tours may be considered service exports; however, the FAA believes that these **GCNP** air tour operations do not represent a significant portion of the United States' exported goods and services to foreign entities. The **GCNP** air tour service is only one element of export services, which at the same time, is only a part of the United States' balance of trade. While the FAA is sensitive to the fact that foreign visitors constitute a large segment of the Grand Canyon air tour customers, the FAA does not believe that foreign visitors to the Grand Canyon will have a significant impact on the United States' balance of trade.

E) ~~Data~~, t h o d o l o g y ,

Comment: Several **commenters** state that the **1997-1998** base year chosen was one of the worst years in history for the air tour industry. Much of the reasoning was attributed to a reduction in tourists coming from Asia due to the Asian financial crisis and to the excessive number of bad weather days during that period. The **commenters** note that this economic data allows for no growth in the industry. They state that the initial allocation that has been developed for the **1997-1998** period does

not reflect normal business operations. In fact, it is 20% to 40% below operations as of July 1999.

Response: The FAA maintains its position regarding the use of the May 1, 1997 through April 30, 1998 data as the baseline period. In order to move forward with rules to achieve significant steps towards restoration of natural quiet, a policy decision was made to use the first 12 months of reporting.

Comment: One **commenter** says that the use of the 1997-1998 base year would be detrimental to tourism development and that it would create an "unhealthy economic environment for our air tour operators." Another **commenter** claims that the use of this base year would force operators to reduce current year operations by 10 to 70 percent.

Response: As stated earlier, the choice of a baseline was a result of a policy decision. While the impact of that decision on air tour operators may vary from operator to operator, it is unlikely that it would force some operators to reduce current year operations by 70 percent. The most current data collected by the FAA (May 1998 through April 1999), when compared to the baseline period, suggest that there was a further 5.7 percent reduction in total air tour operations in the GCNP during the second year. It is likely that if the FAA were to incorporate the 1998-1999 data in its analysis, the rule would have a greater impact on air tour operators than the proposed base year.

Comment: One air tour operator proposes that the FAA collect data of air tour activity over the Grand Canyon for a period of three years, instead of the one year, to obtain an accurate average of the air tour activity.

Response: The collection of data over a three-year period (May 1997 through April 2000) may enhance the current database for analysis, if the FAA were to undertake such a task. However, doing so would delay implementation of this rule and, thus, not be responsive to the goal of Public Law 100-91.

Comment: Another **commenter** notes that the FAA appears to be using outdated data in its regulatory evaluation. The **commenter** adds that, since the rule will affect only 25 entities operating fewer than 100,000 air tours annually, the FAA should have enough time to collect and tabulate the most recent data (May 1998 through April 1999) from these entities. The **commenter** suggests that this would ensure that the regulatory evaluation is based on correct data and that the correct decisions emanate from that data. The Grand Canyon Air Tour Council (GCATC) also states that the data should be collected over a two-year period.

Response: The FAA does not **agree** with the **commenter** in the suggestion that the FAA used outdated data in its analysis. As stated previously, the FAA did collect and tabulate the most recent full year data (May 1998 through April 1999). This data, when compared to the proposed base year, suggest that there was a further 5.7 percent reduction in total air tour operations in the **GCNP** during the second year. It is likely that if the FAA were to incorporate the 1998-1999 data in its analysis, the rule would **have a** greater impact on air tour operators than the proposed base year.

With regards to data for the third full year (May 1999 through April 2000), preliminary information from the first trimester reports (the most current data collected) indicate that the downturn in air tour operations during the first two years of data collection may be

reversing. However, because all of the data for the third full year has not been collected, the FAA cannot include this data in its analysis.

Comment: One operator disagrees with the FAA's statement in the regulatory evaluation (page 21) that walk-ups constitute "very little" of air tour business. The operator suggests that over 85 percent of his/her business is generated by walk-up and non **pre-booked** business.

Response: The FAA recognizes that walk-up groups may constitute an important source of business for a particular company; however the data does not support this fact for the industry as a whole. Data show that international charter groups mainly from the Far East Asian countries and Western Europe; chartered bus tours; and packaged tours sponsored by strip operators at Las Vegas casino-hotel establishments are the main **source of** business for air tour operators conducting tours at **GCNP**.

Comment: Some **commenters** state that the operations limitation process is flawed and nonfactual. They note that the FAA's allocations are premised on a depressed based period. One **commenter** notes that limitations will keep air tours at a lower than economically **sustainable** level. Other **commenters** say that allocations will force some air tours out of business. Moreover, there are no alternatives to allocation period.

Response: As stated earlier, the FAA maintains its position regarding the use of the May 1, 1997 through April 30, 1998 data as the base year. The FAA recognizes that this period may have been a difficult year for the **GCNP** air tour industry. However, the base year was determined as a result of a policy decision to base this rule on the first full year of the data after the effective date of the 1996 Grand Canyon final rule.

The FAA has, however, made several attempts to address the individual operator's allocation concerns in certain cases. The FAA has reviewed its data and the additional information provided by these operators and has considered appropriate adjustments to their individual allocations using parameters set heretofore in the final rule. As a result, the FAA has adjusted the proposed baseline of 88,000 to 90,000 total commercial air tours in the GCNP.

Comment: One operator states that the operations limitation will make his air tours less affordable. The operator notes that he already charges \$94 per passenger for a half-hour tour. Thus, a family of four would be charged \$376 for the same tour. The operator believes that an increase in cost due to the rule will make an air tour of GCNP cost prohibitive for the American public.

Response: In its analysis, the FAA has assumed that GCNP commercial air tour sightseeing operators could recover any increase in operating cost due to this rulemaking by charging their customers more for air tours. A percentage of the cost will be passed along to the customer and a percentage of it will be absorbed by the operators as a cost of doing business at the GCNP. The price increases will be determined by the market place, which will keep all operators competitive. At this time, the FAA does not have adequate data to estimate how sensitive customers are to the likely price increases for air tours of the Grand Canyon. However, the FAA believes that commercial air tour sightseeing operators will be able to recover most of the increased costs imposed by this rule, because the price increases will usually be relatively small (compared to the price of an air tour) so that most potential customers will continue to purchase air tours of the Grand Canyon.

Comment: Several **commenters** believe that the allocation system will restrain growth and act as a barrier to additional investment. They add that artificial caps on operating capacity will make it difficult for lenders to invest capital.

Response: The FAA recognizes that because of the allocation system, the future growth of air tour operations would likely be curtailed. This is one of the acknowledged costs of achieving natural quiet in the **GCNP**. Furthermore, the FAA agrees that this restriction on future growth would act as a barrier to additional or growth investment. However, in the long run, the operations limitation should not make it difficult for operators to attract replacement investment (e.g., capital needed to replace aged and/or noisy aircraft) as demand for air tours is expected to increase, which should make it possible for the operators to raise their prices.

Nonetheless, the FAA has taken clear action to reduce the impact of the operations limitation on **GCNP** air tour operators. This action includes the elimination of seasonal apportionment of allocations and the **ability** to transfer allocations. These provisions will reduce the impact of operations limitations on the growth of air tour businesses as operators are allowed more flexibility in the distribution and use of their allocations throughout the year to adjust to any fluctuations in market demand.

Comment: One **commenter** suggests that flight **caps** and lack of Las Vegas-Grand Canyon route would surplus substantial number of aircraft, reduce monthly lease income per aircraft by 1/3 and lower market value of aircraft by 1/3.

Response: The FAA acknowledges that the operations limitations could impact the **GCNP** air tour operators' principal lease market (e.g., other

GCNP air tour operators), and this could lead to some aircraft being under utilized some of the time. In the absence of more detailed data, the FAA cannot accurately estimate the overall impact on the lease market. Therefore, the FAA does not have evidence to lead it to believe that the operations limitation will reduce the market value of aircraft by one-third. The market forces will have to determine the value of these extra aircraft. The FAA, however, is aware of limited alternative leasing markets in the Las Vegas area other than other GCNP air tour operators.

With regards to the Las Vegas-Grand Canyon route, the FAA has provided alternative routes between Las Vegas and Tusayan that pass through the GCNP. In fact, some air tour operators have already elected to utilize these routes.

Comment: Another commenter purports that a major crisis abroad could significantly impact him, since 80 percent of his/her air tour passengers are foreigners. If the air tour passenger numbers were to drop significantly due to a foreign crisis in any given year, and these allotments are confiscated (under the use or lose provision), then the company would not be able to make up these revenues in succeeding years.

Response: The FAA recognizes the fact that the air tour industry is sensitive to fluctuations in visits by foreigners to the GCNP. The FAA has taken clear and reasonable steps in addressing the concerns of the air tour industry while adhering to its congressional mandate to restore natural quiet to the GCNP. These noticeable actions to reduce the impact of operations limitation on GCNP air tour operators include a 180-day extension of the use or lose provision (if the operator's written request is approved by the FAA) and the elimination of seasonal apportionment of allocations. By relaxing allocation restrictions,

under the final rule, the operators will have more flexibility in their business operations to better handle some of the potential effects of a major crisis abroad. The use or lose provision is triggered only if no allocations are used during the specified time period.

Comment: One **commenter** says that limitations on air tours will not only hinder revenue from foreign visitors but also increase the demands on Park roadways, visitor centers, and other resources.

Response: The FAA recognizes the possibility that there may be an increase in the demand for ground tour operations. Some individuals who would take air tours in the future would no longer take them. Some individuals who would have flown, from Las Vegas for example, might now take ground transportation to the Grand Canyon and then a surface tour. However, at this time, without adequate data, it is difficult to estimate with accuracy the substitution effect of the operations limitation on ground tour operations in the **GCNP**. The FAA and **NPS** will be closely monitoring this situation and will take appropriate action to mitigate any problems that may develop.

Comment: One **commenter** believes that "allocations must be considered a property interest," not just an operating privilege. The **commenter** adds that air tour companies have invested a substantial amount of time and money in their businesses, and the operator claims that allocations must be an intangible asset belonging to each respective air tour company. Another **commenter** states that the FAA should not have sole control over flight allocations. On the other hand, a coalition of environmental organizations suggests that the allocations not be construed as property that could be sold.

Response: As stated in the preamble, the FAA **maintains** that allocations are not a property interest. The FAA is authorized to develop plans and policy for the use of navigable airspace and assign by regulation or order the use of the airspace necessary to ensure the safety of **aircraft** and the efficient use of airspace (see **49 U.S.C. §40103(b)**).

The FAA has been granted clear authority to regulate airspace and air carriers. The FAA has used this authority, together with its authority in Public Law 100-91, to establish the **GCNP SFRA** and to regulate for noise efficiency. Given its clear mandate to regulate airspace, the FAA cannot grant property rights to an air carrier in the airspace. Thus, an allocation must be an operating privilege.

Comment: One operator states that the **180** days is not a proper measurement of time for the use or lose provision proposed in section **93.321**. The operator adds that it is too arbitrary, and that a minimum of **360** days is needed. Another operator proposes to replace the proposed rule to withdraw allocations for inactivity in any consecutive **180-day** period with a "Statement of Intent to Operate" that includes the operator future business plans. On the other hand, a coalition of environmental organizations argues that allocations unused for **180** days should be retired, not transferred.

Response: As stated in the preamble, the use or lose provision is important because it recognizes that the FAA is the sole controller of the allocations. If not used, the air tour operator will lose its allocations, thus its operating privilege in the **GCNP SFRA**.

However, the FAA, in consultation with **NPS**, is modifying the rule to establish a show cause provision prior to the end of **180** consecutive days. Under this provision, an operator who had not used an allocation

for 180 consecutive days, but who intended to do so in the future, must submit a written document to the Las Vegas Flight Standards District Office (FSDO) prior to the expiration of the 180-day period. This document must show why the operator had not conducted business during the prior 180 days and when it intends to resume business operations. In response, the FSDO will issue a letter indicating whether the operator has additional time and the length of the extension, which would not exceed 180 calendar days. Operators would be allowed to request one extension; thus the maximum amount of time an operator would be granted under the use or lose provision would be 360 days.

Comment: Several commenters note that there should be no restrictions with regard to what season their allocations can be utilized. They add that the only accurate predictor of peak or non-peak periods is the marketplace. To move off-season allocations into peak-season is not valid because the business requires continuity of personnel, extensive and recurrent training, off-season maintenance, etc.

Response: In an effort to strike a balance and fulfill the FAA's statutory obligations under Public Law 100-91 and SBREFA, the FAA is not apportioning the allocations between peak and off-peak season. By eliminating this additional allocation restriction, the operators will have some flexibility in their business operations so that they can mitigate the revenue losses that will be incurred with the imposition of this operations limitation. Furthermore, the FAA is permitting allocations to be transferred among air tour operators, subject to restrictions. This action will provide operators will the flexibility to meet varying demand.

F) Reporting Requirements and Flight Plans

Comment: One operator states that repositioning flights, maintenance flights, check flights, training flights, charter flights, private flights, etc. are not air tour flights and should not be subject to any reporting requirements, as there are Standard Operating Procedures for commercial helicopter companies. Other **commenters** note that reporting should not be imposed as a condition of FAA Form 7711-1 Certificate of Waiver or Authorization.

Response: The FAA notes that only those flights designated as commercial **SFRA** operations are required to be reported. The FAA will impose reporting requirements on flights operated under FAA Form 7711-1 Certificate of Waiver or Authorization. The information obtained from the report requirements will assist the FAA and **NPS** in developing a clearer picture of the types and numbers of flights operating in the **GCNP SFRA**.

Comment: Another operator says that the handwritten (with carbon copies) reporting requirement is unnecessary and unacceptable since the same information is provided by computers, logbooks, and overflight reporting to the **NPS**. Thus, the cost of this reporting requirement (cost of carbon forms, printing, and distribution of the forms) is a burden and it adds no value.

Response: This comment appears to address a written alternative to the flight filing plan method that was considered in the course of developing the **NPRM**. The FAA concurs with this **commenter** that a written form of filing a flight plan is time and cost burdensome and, therefore decided against the implementation of this provision. The information

that is required to be reported may be submitted in electronic format under the rules.

Comment: One operator contends that the cost of implementing the flight plan filing method is unacceptable because it is an unnecessary economic burden. According to this **commenter**, the information is already provided to the FAA. The **\$25** overflight fee guarantees the reporting of flights so that the allotments are not lost. In addition, the operator calculates that if the FAA's time estimate for filling out a flight plan was accurate (5 minutes per aircraft), his/her air tour business would lose about 3 flights per aircraft per day. This operator's potential loss of 3 flights per day per aircraft was derived mathematically based on full fleet utilization, passenger load capacity, and optimum turns per day and reflected as a daily revenue loss of **\$34,200**.

Response: The filing of a flight plan is necessary, as it will provide immediate information on when a flight had commenced and when it has been completed. Moreover, this data will be used to ensure compliance with the commercial air tour limitations. The information provided to the **NPS** in conjunction with overflights is not identical. Thus, this reporting is not duplicative.

As to the economic impact of the flight plan method, the FAA appreciates the information provided by the operator's optimization model and **agrees** that under the proposed operating conditions, such losses could occur. However, after reviewing the data from the base year, it appears unlikely that the operator could employ the proposed optimization model under normal operating conditions every day of the year.

It is likely that an air tour operator with such a magnitude of operations could have prepared flight plans in advance. Operators may

wish to develop "canned" flight plans that can be opened and closed quickly. The FAA does not believe this approach would pose an unreasonable burden on the pilot since the pilot does not have to open or close the plan. The operator may designate this task to a ground employee. This method would provide the pilot with more time to conduct air tours. Thus, the airtime loss due to preparation of flight plans could be minimized.

G) Impact on Air Tour Operators

Comment: The FAA received many comments relating to the cost impact on air tour operators overall. Some **commenters** state that imposing unnecessary regulations on the air tour industry that provides hundreds of jobs and imposes far less environmental impact on ground visitors is inappropriate. One operator states that the proposed rule should have provisions prohibiting the FAA from interfering with or controlling pricing of air tours and leasing or sale of allotments. Prices charged by the air tour operators should not be subjected to **NPS** or FAA approval.

Response: The U.S. Congress has directed the FAA and the **NPS** to work together to promulgate regulations to achieve substantial restoration of quiet in **GCNP**. This rule moves the Grand Canyon air tour industry towards the goal of restoring natural quiet in the Grand Canyon National Park. While some parties believe that these environmental regulations are unnecessary, others believe that they are not and the possibility of some individuals losing their jobs is worth the cost. As far as the **FAA's** interfering with pricing, the FAA is prohibited from interfering with or controlling the pricing of air tours and the leasing or sale of allotments.

Comment: Other **commenters** state that this proposed rule would result in a loss of income to tour operators. They also say that the proposed rulemaking is a threat to the continued viability of the air tour industry. Even other **commenters** say that the proposed rule would place the small operators at a disadvantage. One **commenter** argues that small operators would have to increase prices, while large air tour operators could hold out longer before increasing prices. This operator states that if small operators go out of business or do not use their allotment, the large operators would capture a large portion of the unused allocation through redistribution.

Response: The FAA accepts as valid many of the responses from **commenters** who state that the air tour industry may be adversely affected because the FAA regulatory evaluation shows that costs over ten years would be significant. However, it is highly unlikely that the continued viability of the air tour industry overall would be in jeopardy because at some equilibrium price, people would still want to take air tours across the Grand Canyon. All of the operators affected by this rulemaking are small so it is unlikely that they would be at an economic disadvantage relative to each other. These issues will be discussed further in the regulatory flexibility section.

Comment: An operator states that the proposed rule would cause them to cease operating airplanes and instead focus only on helicopters. As a result of this rulemaking, a minimum of four positions would be lost as well as tens of thousands of dollars in lost goods and services to support their fixed wing operations. They also believe that this proposed rule would reduce both competition and customer service.

Response: The FAA has attempted to reduce to the extent practicable the costs of this proposed rulemaking, especially for small entities.

Comment: One operator claims that it uses more quiet aircraft (Vistaliners) than many other air tour operators do. This operator states that the Saddle Mountain route increases direct operating costs by 20 percent or \$91.72 per flight and imposes a weight penalty of 130 pounds of fuel. They also claim that they have high fixed costs and lost money in 1998. Moreover, they cannot raise prices and state that they didn't raise prices in 1997-98 when traffic fell. In addition, the costs of changing their fleet is high and that this proposed rulemaking would result in a loss of \$750,000 annually if adopted. They further state that they need 3,700 flights to produce enough net revenues to cover fixed costs but that this proposed rule would only allow 3,165 flights and that they cannot break even. Finally, the Vistaliner is rarely used for non-tour purposes. The extra weight on these aircraft is due to windows, air conditioning, and propellers.

Response: The FAA acknowledges the economic burden placed on those airplane operators whose principal air tour offering was the former Black 1, 1A loop up the Zuni Point Corridor, across the North Rim and down the Dragon Corridor. The FAA has therefore, in its Notice of Route Availability, amended the restriction to one-way airplane traffic in the Zuni Point Corridor to allow reverse operations on the new Black 2 airplane tour route. This will also provide the airplane operators conducting air tours in the East-end Tusayan market with an air tour that is a competitive alternative to the helicopter tours conducted in the Dragon Corridor. The FAA also notes that from a regulatory perspective, the concept of "quiet aircraft" is still in development.

H) Impact on the Local Economy

Comment: One **commenter** manages a ground taxi service business that assists many air tour companies. For example, it provides shuttle services to and from the airport. This **commenter** states that in comparison to other means of experiencing the **GCNP**, air tours place the least burden on the National Park Service and on the environment. This **commenter's** annual operating revenue is nearly \$1 million and employs 21 workers. If the rule were implemented, air tour operations would be cut by an average of 34 percent. Combined with a loss of two million dollars in 1997 and no opportunity for growth, their clients would likely discontinue operations.

Several **commenters** state that this proposed rule would have a devastating impact on small businesses and harm local, as well as Arizona, tourism. Another **commenter** states that the air tour industry has been a vital part of the Arizona economy for over 60 years. According to a study published by the University of Nevada at Las Vegas, air tour operators contribute more than \$374.8 million a year to the Nevada tourism economy. The proposed rule would have a trickle-down effect on numerous related and unrelated businesses including motels, restaurants, and automobiles. In addition, the proposed rule would have a significant impact on revenues such as those airports owned and operated by Clark County.

Response: This proposed rule is likely to have an impact on the local economy in the future because future growth would likely be curtailed. The FAA concedes that some individuals who would take air tours in the future would no longer take them, other individuals who would have flown, from Las Vegas for example, might now take ground transportation

to the Grand Canyon and then a surface tour. This is one of the acknowledged costs of achieving natural quiet in the GCNP.

I) Economic Impact Associated with The Tribe

Comment: The proposed restriction on the number of visitors to Grand Canyon West arriving by air could cut the Hualapai Tribe's General Fund almost in half, force the elimination of the Youth program, significantly cause a "Reduction in Force" of tribal employees, and cause severe economic hardship on the families that rely directly and indirectly on the jobs created by the tourism business at Grand Canyon West. The Tribe emphasizes that the transport flights must not be confused with tour overflights, which do not land on the Reservation.

One operator, who conducts helicopter air tours, employs 79 individuals, including seven members of the Tribe. This operator claims that its' flights are in support of the developing economy of the Tribe. The Tribe approved this operator's plan to bring customers to the Reservation and the operator has made substantial investments in equipment, employees, and marketing efforts in reliance on that relationship. Since the Tribe approved this operators' plans, the air tour operator claims that the business plan has been increasingly successful and profitable for both parties. The Tribe's members provide meals, visits to Native American Sites, dancing exhibitions and other Native American cultural experiences, and river guide services.

The operator also claims that the Tribe is committed to developing a tourism business in a careful and dignified way that is respectful of their traditions and culture and does not crassly commercialize their special places.

During the year May 1, 1997 through April 30, 1998 the operator made nearly 3,000 trips to the Reservation. For that time period, this helicopter operator paid the Tribe approximately \$200,000 for landing rights and for services provided by them to their customers. This air tour operator believes that limiting their allocations would be both unfair to operators and the Tribe. The air tour operator goes on to say that he opposes using 1997-1998 as the base year for allocations. This operator claims that he currently is on track to make over 7,000 trips to the Reservation annually and expects to pay over \$800,000 to the Tribe for the landing rights and services associated with these trips. These figures do not include the wages and benefits paid to the Hualapai employees. In the year 2000, this operator states that Reservation revenues from helicopter flights and associated tourism services would be over \$1 million. By limiting their flights to those made in 1997/1998, this operator states that the impact on the operator's business would be similar to those of the Tribe's.

Response: The FAA has been consulting with the Native American interests throughout this rulemaking process and the economic impact on the Reservation was highlighted during the comment period. The Tribe has stated that they had an economic interest in air tour business brought to the Tribe reservation via air tour operators operating under FAA Form 7711-1 Certificates of Waiver or Authorization. This authorization allows air tour operators to deviate from the Green 4 helicopter route and Blue 2 fixed wing route.

The FAA and NPS have decided to except operators complying with specific conditions from the individual allocation process. This is necessary in order to fulfill the government's trust responsibility to the Tribe, which would be adversely impacted if the operations limitation were

applied to operators servicing Grand Canyon West Airport in support of the Reservation.

These conditions are **as** follows: 1) the certificate holder conducts its operation in conformance with the route and airspace authorizations as specified in its **GCNP SFRA** operations specifications; 2) the **certificate** holder must have executed a written contract with the **Hualapai** Indian Nation which grants the certificate holder a trespass permit and specifies the maximum number of flights permitted to land at Grand Canyon West airport and at other sites located in the vicinity of Grand Canyon West airport and operates in compliance with that contract; and 3) the certificate holder must have a valid operations specifications that authorizes the certificate holder to conduct the operations specified in the contract with the **Hualapai** Indian Tribe and specifically approves the number of operations that may transit the **GCNP SFRA** under this exception.

3. The Final Rule

The government has analyzed the noise situation at **GCNP** for more than two years and has decided that a greater effort must be made to reach the statutory goals of Public **Law 100-91**, especially in light of the President's Memorandum. Noise generated by aircraft conducting commercial air tours presents a specific type of problem because these aircraft tend to be operated repeatedly at low altitudes over the same routes. Thus, the **FAA** issued its **1996** final rule and instituted the aircraft cap as a means to limit aircraft noise generated by air tours.

In the **1996** final rule, however, the **FAA** underestimated the number of aircraft operated in the **GCNP SFRA** by commercial air tour operators. This problem was identified in the Notice of Clarification issued

October 31, 1997 (62 FR 58898). In fact, the FAA concluded in this Notice that "there is enough excess capacity in terms of aircraft numbers for air tours to increase by 3.3 percent annually for the next twelve years if the demand exists (62 FR 58902)." The FAA went on to state that "in the aggregate, and for most individual operators, the number of air tours provided can continue to increase while the number of aircraft remains the same."

This final rule will temporarily limit commercial air tours in the **GCNP SFRA** at the level reported to the FAA by the operators for the baseline period, pending implementation of the Comprehensive Noise Management Plan. During the implementation of the commercial air tour limitation, the FAA and the **NPS** will collect further information regarding commercial **SFRA** operations and aircraft noise in **GCNP**. The **NPS** and the FAA will use the information collected during this time to determine whether the "substantial restoration of natural quiet" has been achieved. In the event that the agencies determine that the statutory goal is not met through the various noise mitigation techniques so far adopted, the FAA and **NPS** will need to take further steps to achieve the statutory goal. This could mean that the commercial air tour limitation would become permanent and/or that commercial air tours would be further, limited.

In addition to the limitation on commercial air tours, this rulemaking will add a requirement for certificate holders to file a visual flight rules (**VFR**) flight plan to provide the FAA with a mechanism for monitoring and enforcing the limitation. This rule will also modify the current reporting requirements to require certificate holders to report air tour and other types of flights that enter the **SFRA**. This data would be used to assess the noise situation in **GCNP** and further develop the Comprehensive Noise Management Plan.

The rule also makes a number of non-substantive changes to Part 93, subpart U. These changes consist of the following: renumbering paragraphs, moving subparagraphs into new sections and amending section headings. These changes are intended to make the rule easier to read and understand and to reflect the changes.

A) Definitions

Three new definitions will be added to § 93.303 and will be applicable to part 93, subpart U. Definitions will be added for the terms "allocation", "commercial air **tour**", and "commercial **SFRA** operation."

Allocation: The term "allocation" will be defined as the authorization to conduct a commercial air tour in the Grand Canyon National Park (GCNP) Special Flight Rules Area (SFRA). Each operator reporting air tours to the FAA for the baseline period will receive one allocation for each commercial air tour reported during the base year.

Commercial Air Tour: The term "commercial air **tour**" will be defined as any flight conducted for compensation or hire in a powered aircraft where a purpose of the flight is sightseeing. If the operator asserts that a given flight is not a commercial air tour, the Administrator may consider a number of factors in determining whether or not the flight is actually a commercial air tour. Factors that the Administrator may consider include, but are not limited to the following: 1) whether there was a holding out to the public of willingness to conduct a sightseeing flight for compensation or hire; 2) whether a narrative was provided that referred to areas or points of interest on the surface; 3) the area of operation; 4) the frequency of flights; 5) the route of flight; 6)

the inclusion of sightseeing flights as part of any travel arrangement package; or 7) whether the flight or flights in question would or would not have been cancelled based on poor visibility of the surface. The Administrator may give more weight to some factors than others in making this determination.

The current rules at part 93, subpart U use the term "commercial sightseeing flight" at § 93.305 (Flight-free zones and flight corridors), § 93.307 (Minimum flight altitudes); 93.315 (Commercial sightseeing operations); § 93.316 (Commercial sightseeing limitations); and § 93.317 (Commercial sightseeing flight reporting requirements). This rule replaces the term "commercial sightseeing flight" with the term "commercial air tour" throughout part 93, subpart U. This definition clarifies which flights are considered commercial air tours. The current rules do not define the term "commercial sightseeing flight". Instead, the FAA has assumed that flights operated on the Blue, Black and Green air tour routes that are reported to the FAA under § 93.317 are commercial air tour flights with the following exceptions: 1) flights using the Blue Direct and Blue Direct South routes generally are presumed to be flights to move passengers from point A to point B (transportation) or flights to position aircraft (repositioning flight); and 2) flights using the Green 3 route are operated under an FAA Form 7711-1 Certificate of Waiver or Authorization (issued by the Las Vegas Flight Standards District Office (FSDO)) in support of Supai Village and the Havasupai Tribe. The FAA also believes that most flights operated on the Brown routes are operated under an FAA Form 7711-1 Certificate of Waiver or Authorization, typically in support of the Canyon's river rafting operations, but that on occasion, a sightseeing flight can transition to a Brown route as a part of a more extensive commercial sightseeing flight. Finally, in the final rule, there are only two east/west routes that will be used for all types of commercial SFRA

operations. Hence, because it will be more difficult to identify air tours based on the route flown, the FAA defines the term "commercial air tour," to separate commercial air tours from other types of flights.

Commercial SFRA Operations: Public Law 100-91 recognizes that noise associated with "aircraft overflights" at the GCNP is causing "a significant adverse effect on the natural quiet and experience of the park." In order to improve noise management in the GCNP, the agencies believe it is necessary to impose some requirements on all flights conducted in the SFRA by air tour operators, regardless of whether an air tour is actually conducted on that flight. Therefore, the FAA adopts a new term to apply to all commercial operations conducted by certificate holders authorized to conduct flights within the GCNP SFRA. The term "Commercial Special Flight Rules Area Operation" (Commercial SFRA Operation) is defined as any portion of a flight within the GCNP SFRA that is conducted by a certificate holder that has operations specifications authorizing flights within the GCNP SFRA. This term is broader than the term "commercial air tour" as it includes air tours as well as transportation, repositioning, maintenance, training/proving flights and flights to Grand Canyon West Airport. The types of flights included in the definition of commercial SFRA operations will be set forth in the "Las Vegas Flight Standards District Office Grand Canyon National Park Special Flight Rules Area Procedures Manual" and may be revised from time to time to accurately reflect flights in the SFRA. Commercial SFRA operations do not include supply and administrative flights conducted under an FAA Form 7711-1 Certificate of Waiver or Authorization in support of the Indian tribes, or other flights conducted under FAA Form 7711-1 Certificates of Waiver or Authorization. The FAA has created this new term so that it can better account for the types of operations occurring within the park other than commercial air tours.

B) Requirements Specific to Commercial SFRA Operations

Section **93.315** is reorganized and revised to remove the capacity limitation of aircraft and to delete the reference to the outdated SFAR No. **38-2**. The language being modified only applied to aircraft having a passenger-seat configuration of **30** or fewer seats. The FAA believes that removal of the capacity restriction is necessary because it is aware that some air tour operators are beginning to use larger capacity aircraft. The FAA wants to ensure that each air tour operator, regardless of the capacity of aircraft, is held to the same operational and safety standards.

Section **93.317** of the final rule maintains the current curfew hours in the Dragon and **Zuni** Point Corridors (current **§ 93.316(a)**). This curfew will apply to commercial **SFRA** operations. Currently, the curfew applies to "commercial sightseeing operations", which is an undefined term. The FAA believes that amending this curfew to include commercial **SFRA** operations will improve the management of aircraft noise in the Dragon and **Zuni** Point Corridors. The FAA is moving this language from **§ 93.316** to **§ 93.317** and is reserving **§ 93.316** for future use.

Section **93.325** requires certificate holders conducting commercial air tours in the **GCNP SFRA** to report their commercial **SFRA** operations to the FAA on a quarterly basis. As discussed below, this reporting requirement enables the FAA and **NPS** to assess more accurately the noise level and airspace use in **GCNP** and further the development of the Comprehensive Noise Management Plan.

C) Operations Limitation

This rule limits all commercial air tours in the **GCNP SFRA** on a 12 month basis so that such air tours conducted by certificate holders in the **SFRA** do not exceed the amount of air tours reported in accordance with current § 93.317 for May 1, 1997 through April 30, 1998. Final § 93.319 establishes this commercial air tour limitation. The number of air tours that a certificate holder can conduct will be shown on the certificate holder's operations specifications as allocations.

These allocations will remain unchanged by the FAA for a twenty-four month period, from the effective date of this rule. After that time, all certificate holders' allocations may be revised based on the following: 1) data submitted under § 93.325; 2) updated noise analysis; and/or 3) the status of the Comprehensive Noise Management Plan. Any change in allocations would be subject to notice and comment rulemaking.

The FAA and **NPS** realize that commercial air tour operators need consistency to justify equipment investment and make other business plans. In devising the two-year term for the allocations, the FAA considered two other alternatives including revising the allocations on an annual basis or on an ad-hoc bases thereafter. The FAA rejected both of these alternatives because it was concerned that neither alternative achieves the proper balance between providing the certificate holders with the latitude necessary to conduct business and controlling noise in the **GCNP**.

D) Initial Allocation

Under this rule, each certificate holder that reported commercial air tours to the FAA in accordance with current §93.317 that holds operator

specifications to operate in the **SFRA** will receive one allocation for each air tour reported during the May 1, 1997 through April 30, 1998 base year period, unless adjusted for one the reasons specific in the Final Rule. The total number of commercial air tours that were reported by the operators to the FAA for that base year was **90,000**.

In developing the **NPRM**, the FAA and **NPS** considered 3 operational alternatives: 1) the 5 month peak season (May-September); 2) a three month (July 1-September 30) peak season; and 3) a uniform year with no peak/off-peak delineation. For the final rule, the FAA is not adopting, any of the peak season allocation apportionments. In an effort to strike a balance and fulfill the FAA's statutory obligations under Public Law **100-91** and the Small Business Regulatory Evaluation and Flexibility Act (**SBREFA**), the FAA is not apportioning the allocations between peak and off-peak season. By eliminating this additional allocation restriction, the operators will have more flexibility (than allowed in the proposed rule) in their business operations so that they can mitigate the revenue losses that will be incurred with the imposition of this operations limitation.

Under the final rule, allocations will be separated into those that may be used in the Dragon and **Zuni** Point Corridors and those that may be used in the rest of the **SFRA**. Dragon and **Zuni** Point allocations will be determined based on the number of air tours an operator conducted in this region and reported for the baseline period. Only operators who reported air tours in these corridors for the base year will receive allocations for these corridors. The **NPS** and the FAA believe that restricting allocations for the Dragon and **Zuni** Point Corridors is necessary because the airspace in this region is already congested. The agencies believe that this restriction would help to maintain the number of air tours in these corridors at a level that does not pose a

congestion problem and that prevents aircraft noise in this region of the park from increasing. This limitation will be revisited upon the implementation of the Comprehensive Noise Management Plan.

Certificate holders operating in the **GCNP SFRA** will receive a written notification informing them of the following information: 1) Total number of air tours allocated in the **SFRA**, and 2) Number of air tours allocated in the Dragon and Zuni Point Corridors.

The FAA recognizes that the air tour business in **GCNP** is fluid, and that due to mergers/acquisitions, bankruptcies, or other commercial events that affect operations, certificate holders may contend that the data they submitted for May 97 - April 98 does not accurately reflect their current business. Any certificate holder who believed that the data did not reflect its business operations as of the date of this notice was invited to submit a written request to the Manager, Air Transportation Division, Flight Standards Service, requesting that its allocation be **re-assessed** and indicating why the base year was not an accurate allocation. Ten operators responded prompting the FAA to revise the estimated number of air tours conducted during the base period to just over 90,000, and to increase the total number of allocations by 2,000 for certain operators. The bases for these adjustments are contained in the Final Rule.

E) Flight Plans

Final §93.323 requires each certificate holder conducting commercial **SFRA** operations to file an FAA visual flight rules (**VFR**) flight plan with an FAA Flight Service Station for each flight. Each flight segment (one take-off and one landing) will require a flight plan. The purpose of each flight must be indicated in the "remarks" section of the flight

plan. There are several types of flights. The term commercial air tour will be as already defined in this rule. The other flights will be defined in the "Las Vegas Flight Standards District Office Grand Canyon National Park Special Flight Rules Area Procedures Manual" as follows:

1. Transportation - A flight transporting passengers for compensation or hire from point A to point B on a flight other than an air tour.
2. Repositioning - A non-revenue flight for the purpose of repositioning the aircraft (i.e. a return flight without passengers after an air tour that is conducted to reposition the aircraft for the next flight).
3. Maintenance flight - A flight conducted under a special flight permit, or a support flight to transport necessary repair equipment or personnel to an aircraft that has a mechanical problem.
4. Training - A flight taken for one of the following purposes: 1) pilot training in the SFRA; 2) checking the pilot's qualifications to fly in the SFRA; or 3) an aircraft proving flight conducted under § 121.163 or § 135.145.
5. Grand Canyon West Flights - A flight conducted in accordance with the conditions set forth in §93.319(f).

The information obtained from the flight plan will be used to ensure compliance with the commercial air tours limitation. The certificate holders may wish to develop "canned" flight plans that may be opened and closed quickly. In this case, no copies will have to be maintained by the certificate holder or its pilot. The FAA believes that the VFR flight plan requirement is less burdensome than the form system considered as an alternative. At this time, the FAA believes that the flight plan filing is a feasible approach.

F) Reporting and Recordkeeping

The reporting requirement currently contained in §93.317 is moved to §93.325 and expanded to cover certificate holders with air tour operations specifications for the GCNP SFRA conducting commercial SFRA

operations (i.e., air tours, maintenance, transportation, repositioning, training/proving flights, and Grand Canyon West Flights). The information reported will be similar to that currently required by §93.317. Additionally, because commercial **SFRA** operations can originate in one time zone and cross time zones and end in another time zone, the FAA wants to ensure that times reported are consistent; time will be shown in Universal Coordinated Time (UCT or UTC) in these reports.

Currently, certificate holders are required to report three times a year. The FAA proposed to modify this requirement to require reports to be submitted to the Las Vegas **FSDO** on a quarterly basis. The information submitted on these quarterly reports will be used by the FAA and **NPS** to assess the noise situation in **GCNP** and in development of the Comprehensive Noise Management Plan. Certificate holders can continue to submit the quarterly reports in electronic or written form; however, electronic transmission (diskettes, **email**) is preferable and encouraged.

Certificate holders conducting flights in the **SFRA** under an FAA Form 7711-1 Certificate of Waiver or Authorization will not be required to report under § 93.325; however, the FAA will be requiring such **reporting** as a condition of the waiver. Such reporting will provide the agencies with a clearer picture of the types and numbers of flights operating in the **SFRA**.

G) Transfer of Allocations

Allocations to conduct commercial air tours in the **GCNP SFRA** will be an operating privilege granted to certificate holders who conducted and reported commercial air tours during the base year. The allocation will be subject to reassessment after two years. Allocations to conduct commercial air tours in the **GCNP SFRA** are not a property interest.

The FAA recognizes that air tour operators often utilize a variety of contracting/subcontracting methods to handle passenger loads during busy periods. Thus, the FAA will allow an allocation to be transferred among certificate holders, subject to three restrictions. First, all certificate holders will be required to report any transfer to the Las Vegas **FSDO**. Permanent transfers of allocations resulting from mergers/acquisitions, bankruptcies, or other reasons that affect operations must be reported to the FAA Las Vegas **FSDO** in writing. The transfer will not be effective until the **FSDO re-issues** the operations specifications reflecting the transfer. Temporary transfers will only need to be reported to the Las Vegas **FSDO**. Second, all certificate holders will be subject to all other applicable requirements in the Federal Aviation Regulations. Third, allocations authorizing commercial air tours outside the Dragon and **Zuni** Point Corridors will not be permitted to be transferred into the Dragon and **Zuni** Point Corridors. Allocations to operate within the Dragon and **Zuni** Point Corridors, however, can be used outside the Dragon and **Zuni** Point Corridors. This restriction is necessary to ensure that flights within these corridors do not increase, thus posing a potential safety and noise problem.

Furthermore, certificate holders who voluntarily cease conducting air tour operations in the **GCNP SFRA** for any consecutive **180-day** period will lose their allocations unless the certificate holder notifies the **FSDO** in writing, prior to the expiration of that time period, of the following: 1) the reason why the certificate holder has not conducted any commercial air tours during the **180** consecutive day time period; and 2) the date the certificate holder intends on resuming commercial air tour operations. The **FSDO** will notify the certificate holder of any extension to the **180-day** time period, not to exceed an additional **180** consecutive days. A certificate holder may be granted one extension.

This use or lose provision recognizes that the FAA is the sole controller of these allocations. If not used, the holder will lose its operating privilege and the FAA will then assert its control and decide whether to redistribute the allocations. The FAA originally proposed a time period of **180** consecutive days; however, given the seasonal nature of the air tour business, the FAA believes that this time period could be prejudicial against the certificate holders.

The FAA also retains the right to redistribute, reduce, or revoke allocations based on the need to carry out its statutory mandate to regulate for efficiency of airspace or aviation safety. Additionally, the FAA may redistribute, reduce or revoke allocations if the certificate holder voluntarily surrenders the allocation or in the event of an involuntary cessation of business (i.e., FAA shuts down an operator following an FAA enforcement action). This last factor likely would occur when the FAA enforced its regulations against a certificate holder to improve airspace efficiency or aviation safety. Any action taken against an individual certificate holder under **§93.323** will not be subject to notice and comment rulemaking.

Finally, under **§93.319(f)** the FAA has provided an exception to the use of a commercial air tour allocation to allow for the continued economic support of the Tribe. As specified, an operator may conduct an air tour within the **SFRA** without using an allocation so long as **1)** the certificate holder conducts its operation in conformance with the route and airspace authorizations as specified in its **GCNP SFRA** operations specifications; **2)** the certificate holder must have executed a written contract with the **Hualapai** Indian Nation which grants the certificate holder a trespass permit and specifies the maximum number of flights permitted to land at Grand Canyon West airport and at other sites

located in the vicinity of Grand Canyon West airport and operates in compliance with that contract; and 3) the certificate holder must have a valid operations specifications that authorizes the certificate holder to conduct the operations specified in the contract with the **Hualapai** Indian Tribe and specifically approves the number of operations that may transit the **GCNP SFRA** under this exception.

4. Benefits

The primary intended benefit of this rule is its contribution toward achieving the public mandate imposed by P.L. 100-91 to substantially restore natural quiet in Grand Canyon National Park. This is one of three actions currently being taken by the FAA to move toward that goal. One of the other two actions is the issuance of a Final Rule to make certain modifications of the airspace designations in **GCNP**. The other action is a notification of modifications to routes in the park. In addition to a discussion of restoration of natural quiet, a quantified analysis is given in this benefits section of the increased value that less aircraft noise may provide to ground visitors in the park. The **FAA** has estimated benefits two ways in this analysis. The first deals with the restoration of natural quiet, and the second quantifies an estimate of the increased value of trips to the park by ground visitors.

The benefits analysis is limited to commercial air tour aircraft noise because only commercial air tours will be affected by this rule. It is recognized that other aircraft operate in the vicinity of the Grand Canyon, either above the **SFRA** or along designated corridors (general aviation (GA)) through the **SFRA**. This noise has not been measured or included in the noise models used to obtain the estimates contained in this analysis because the FAA has determined that the amount of noise produced by these aircraft is minimal compared to that of commercial air

tour aircraft. (GA traffic accounts for about 3 percent of all aircraft traffic in the GCNP according to the Las Vegas FSDO). The FAA does not believe that this amount of noise will affect the accuracy of its estimates.

A) Restoration of Natural Quiet

The NPS has defined substantial restoration of natural quiet to require that 50% or more of the park achieve "natural quiet" (i.e., no aircraft audible) for 75-100 percent of the day. That level of "quiet" (50 percent) does not exist today in the park, in spite of past actions to limit noise. Based on noise modeling, the FAA estimates that today only about 32 percent of the park area has had natural quiet restored. Furthermore, if no additional action is taken, estimated future air tour growth will reduce that number to about 25 percent in 9 to 10 years. On the other hand, noise modeling indicates that this rule, together with the other two FAA actions, will increase the restoration of natural quiet to slightly more than 41 percent and maintain that level in the future. The FAA will monitor future operations in the park to determine the actual level of natural quiet that is restored. If necessary, further actions will be taken to ultimately achieve the goal of substantial restoration of natural quiet.

B) Increased Value of Ground Visit Analysis

The benefits of noise reduction attributable to this rulemaking can be broadly categorized as use and non-use benefits. Use benefits are the benefits perceived by individuals from the direct use of a resource such as hiking, rafting, or sightseeing. Use benefits also include the benefits perceived by individuals taking air tours. Non-use benefits are the benefits perceived by individuals from merely knowing that a

resource exists, or is preserved, in a given state. The impacts on the benefits of air tourists have not been quantified due to a lack of information, but have been qualitatively addressed below. The benefits of ground visitors due to this rulemaking have been quantified **and are** presented below. Not all of the benefits and non-use benefits to local Native American Tribes occurring as a result of this rule along with the airspace rule and commercial air tour routes notice have been estimated. These benefits are discussed qualitatively in this section.

Estimation Methodology

An economic study has not been conducted specifically to estimate the benefits of this rulemaking. While generally accepted methodologies exist to estimate such values (e.g., Freeman **1993**), those techniques are costly and require a significant period of time for the requisite study design, data collection, and analysis steps. An alternative to these resource-intensive techniques is the "benefits transfer" methodology. That methodology combines value estimates from existing economic studies with site-specific information (in this case, regarding visitation levels and the nature and extent of noise impacts) to estimate benefits. The benefits transfer methodology has been accepted as an appropriate methodology for estimating natural resource values in two other rulemakings (see **61 FR 499** and **61 FR 20571**).

The obvious advantage of benefits transfer is the avoided cost and time required to conduct site-specific economic studies. The disadvantage of benefits transfer is that the analysis is limited by the scope of existing economic studies. In order to ensure that appropriate economic studies were selected for this analysis, the following criteria were employed.

- * Selected economic studies must reasonably represent the resources to be valued in terms of physical characteristics, service flows, user characteristics, and available substitutes.
- * Selected economic studies must be scientifically sound. Studies that are either published in a peer-reviewed academic journal or are conducted by a recognized university-associated researcher or established consulting firm are considered to be scientifically sound.
- * Selected economic studies must use appropriate valuation methodologies.

The economic studies selected to estimate the benefits of this rulemaking conform to each of these criteria.

The benefits transfer methodology was used to estimate the use benefits of this rulemaking where sufficient information existed to do so. This estimation was possible for ground visitors to **GCNP**, but not for air tourists or for the non-use benefits attributable to this rulemaking.

Benefits of Ground Tourists

The site-specific information used in the estimation of benefits accruing to ground visitors includes visitation data for **GCNP** and a visitor survey conducted to document the visitor impacts of aircraft noise within **GCNP**. The available visitation data for **GCNP** permits the categorization of visitors into backcountry users, river users, and other visitors. The activities included in the "**other visitors**" category primarily involves sightseeing, as well as other activities not related to backcountry or river use. The number of visitor-days in 1998 for these visitor groups is presented below.

<u>Number of Visitor-Days</u>	
Grand Canyon National Park, 1998	
Visitor Group	Visitor-Days
Backcountry	92,097
River	66,938
Other	5,314,491
Total	5,473,526
Source: National Park Service	

For purposes of this benefits estimate, the number of visitor-days at **GCNP** is assumed to remain constant at **1998** levels throughout the evaluation period of the rulemaking. That assumption is considered to be reasonable for a number of reasons. Permits for backcountry and river use are limited to a maximum number that can be issued each year. Moreover, while general visitation is not limited, future restrictions on private vehicle access may tend to reduce increases in future visitation. An assumption of constant visitation is a conservative approach that will not bias the indicated net benefits of the rulemaking upward. This assumption would also probably result in benefits being underestimated.

The **GCNP** visitor survey indicates that these different visitor groups are variously affected by aircraft noise (**HBRS, Inc. and Harris, Miller, Miller, & Hanson, Inc. 1993**). This survey asked respondents to classify the interference of aircraft noise with their enjoyment of **GCNP** as either "not at all," "slightly," "moderately," very much," or "extremely." The percent of visitors indicating these impacts is presented below by visitor group.

Visitors Affected by Aircraft Noise

Grand Canyon National Park

Impact	-----m-----e-- -Percent of Visitors by Category-----		
	Backcountry ^a	River ^b	Other
Not At All	49.5%	59.5%	82.0%
Slightly	21.0%	14.5%	10.0%
Moderately	17.5%	13.5%	5.0%
Very Much	9.5%	8.5%	1.0%
Extremely	2.5%	4.0%	2.0%

^a Average for summer and fall users.

^b Average for motor and oar users.

Source: HBRIS, Inc. and Harris, Miller, Miller, & Hanson, Inc. 1993

The economic studies selected for use in the benefits transfer, and their indicated visitor-day values, are listed below. These values are also known as "consumer surplus." Consumer surplus is the maximum amount an individual would be willing to pay to use a resource, minus the actual costs of use. It is a measure of the net economic benefit gained by individuals from participating in recreational activity.

Estimated Visitor-Day Values (Consumer Surplus)

Grand Canyon National Park

Visitor Group	Study	Activity	Visitor-Day Value (1998 \$)
Backcountry	Bergstrom and Cordell 1991	Backpacking (national survey)	\$37.13
River	Bureau of Reclamation 1995	River use in Grand Canyon NP	\$92.44
Other	Haspel and Johnson 1982	Visit to Bryce Canyon NP	\$48.72

All values indexed to 1998 using the Consumer Price Index for all urban consumers.

All dollar amounts were indexed to 1998 using the Consumer Price Index for all urban consumers.¹⁷ That index was considered appropriate for the benefits estimate since it is more closely related to the consumer

¹⁷ Bureau of Labor Statistics, at <http://stats.bls.gov>

surplus values to be indexed than other indices such as the Gross Domestic Product implicit price deflator.

The visitor-day value for backcountry use, **\$37.13**, was derived from a national study of outdoor recreation (Bergstrom and **Cordell 1991**). That study estimated an average of **\$25.88** per visitor-day in consumer surplus for backpacking (1987 \$). That value indexed to 1998 is **\$37.13** per visitor-day.

The visitor-day value for river use, **\$92.44**, was derived from the economic analysis contained in the Final Environmental Impact Statement for Glen Canyon Dam operations (Bureau of Reclamation **1995**). Glen Canyon Dam is immediately upstream of **GCNP**, and the **dam's** operations directly impact visitor use downstream in **GCNP**. Consequently, an economic analysis of recreation in **GCNP** was included in the Environmental Impact Statement for Glen Canyon Dam operations. That analysis found that the recreational benefits of river use (fishing and rafting) vary by alternative levels of river flow. Therefore, the recreational benefits estimated for the preferred alternative, "modified low fluctuating **flow**," were used in the present analysis since that alternative represents the most likely river flow scenario for the future. The total consumer surplus of recreational river use estimated for that alternative was **\$12,174,000** in **1991**. The total visitor-days of river use were **157,610** in **1991**. Therefore, the indicated visitor-day value is **\$77.24** in **1991** dollars (**\$12,174,000** divided by **157,610** visitor-days). That value indexed to **1998** is **\$92.44** per visitor-day.

The visitor-day value for all other visitor uses in **GCNP**, **\$48.72**, was derived from an economic analysis of recreation at **Bryce** Canyon National Park. The visitor uses addressed by that analysis were considered to closely match those included in the "other visitors" category for **GCNP**,

primarily sightseeing. That analysis estimated two consumer surplus values, \$71.00 and \$62.00 per vehicle in 1980, using alternative techniques. The average of those two values, \$66.50 per vehicle, was used in the present analysis. An average of 2.7 visitors per vehicle for Bryce Canyon National Park was then used to convert that average to a visitor-day value, \$24.63 in 1980 dollars (\$66.50 per vehicle divided by 2.7 visitors per vehicle). That value indexed to 1998 is \$48.72 per visitor-day.

FAA assumed that these visitor-day values represent the net economic benefits obtained from recreational uses in GCNP absent any impacts from aircraft noise. Therefore, it is important to note that these values potentially under-state recreational benefits to the extent that they were estimated in conditions where aircraft noise was present.

There is no known economic study that estimates the reduction in the value of recreational uses due to aircraft noise for areas similar to GCNP. Therefore, the following reductions were assumed in the present analysis. The results of a sensitivity analysis using alternative, lower percentage reductions are reported below.

<u>Assumed Reductions in Visitor-Day Values</u>	
Grand Canyon National Park	
Impact	Reduction
Slightly	20%
Moderately	40%
Very Much	60%
Extremely	80%

These data and assumptions imply the following total lost values from all aircraft noise in 1998. The total lost value of \$17.7 million was calculated as the product of the number of visitor-days, the proportion

of visitors affected by aircraft noise, the visitor-day value, and the assumed proportional reduction in the visitor-day value, for respective impact levels and visitor categories. For example the total lost value for river users that were moderately affected (\$334,138) is the product of the number of river visitor-days (66,938), the proportion of river users that were moderately affected by aircraft noise (13.5 percent), the visitor-day value for river use (\$92.44), and the assumed reduction in the visitor-day value given a moderate impact (40 percent).

Estimated Total Lost Value (Consumer Surplus) from All Aircraft Noise				
Grand Canyon National Park, 1998				
Impact	-----Visitor Category-----			Total
	Backcountry	River	Other	
Slightly	\$143,622	\$179,445	\$5,178,440	\$5,501,506
Moderate	\$239,369	\$334,138	\$5,178,440	\$5,751,948
Very Much	\$194,915	\$315,575	\$1,553,532	\$2,064,022
Extremely	\$68,391	\$198,008	\$4,142,752	\$4,409,151
Total				\$17,726,628

The benefit of this rulemaking is that portion of the total lost value that is associated with the resulting future levels of noise reduction. Through aircraft noise modeling, FAA has predicted the number of square miles within GCNP that would be affected by various levels of aircraft noise, both with and without the flight operations limitation. These noise levels were quantified by a nonlinear measure called L_{Aeq12h} . Totals of the linearized noise measure for GCNP are presented below.¹⁸

¹⁸ Previous benefits analyses used the decrease in the weighted average of the linearized noise measure as the measure of noise reduction. However, upon further consideration, FAA and NPS now believe that the decrease in the total linearized noise measure is a more appropriate measure of noise reduction. That is because the indicated percentage noise reduction is applied to the estimated total lost value from all aircraft noise. The FAA and NPS believe that the decrease in the total linearized noise measure is more consistent in this application.

<u>Predicted Future Noise Reductions in Grand Canyon National Park Due to the Commercial Air Tour Limitation</u>			
Year	Total -----Linearized Noise Measure-----		Noise Reduction Due to the Limitation
	Operations Limitation	No Action	
1998	2,353,042	2,353,042	0.00%
2003	2,364,873	2,774,786	14.77%
2008	2,391,928	3,215,981	25.60%
2000	2,353,042	2,353,042	0.00%

These percentage reductions in aircraft noise were applied to the total lost consumer surplus value from all aircraft noise in 1998 (\$17,726,628) to estimate the current use benefits for future years. Linear interpolation was used to estimate levels of noise reduction for years of the evaluation period not shown in the table above. This calculation assumes that benefits increase linearly with noise reduction (i.e., a constant marginal benefit from noise reduction). A three percent discount rate and a seven percent discount rate were then applied to calculate the present value of use benefits (discounted to the year 1999) over the evaluation period. While the FAA generally uses a seven percent discount rate as recommended in OMB Circular A-94, a three percent discount rate is supported by the economics literature for natural resource valuation (e.g., Freeman 1993). Federal rulemakings also support a three percent discount rate for lost natural resource use valuation (61 FR 453; 61 FR 20584). The resulting use benefit estimates are presented below.

<u>Estimated Use Benefits</u> <u>Due to the Commercial Air Tour Limitation</u>			
Year	Current Value	---m-v--- -Present Value-----	
		3% Discount Rate	7% Discount Rate
2000	\$1,141,595	\$1,108,344	\$1,066,911
2001	\$1,633,804	\$1,540,017	\$1,427,028
2002	\$2,126,014	\$1,945,604	\$1,735,460
2003	\$2,618,223	\$2,326,257	\$1,997,430
2004	\$3,002,182	\$2,589,708	\$2,140,514
2005	\$3,386,140	\$2,835,839	\$2,256,328
2006	\$3,770,099	\$3,065,436	\$2,347,828
2007	\$4,154,058	\$3,279,252	\$2,417,700
2008	\$4,538,017	\$3,478,012	\$2,468,380
2009	\$4,921,975	\$3,662,412	\$2,502,083
Total	\$31,292,107	\$25,830,881	\$20,359,662

It is important to recognize significant uncertainties in this estimation. One area of uncertainty relates to the percentage reductions in visitor-day values that can be attributed to aircraft noise. The FAA assumed above that there is a 20 percent reduction for visitors affected "slightly," a 40 percent reduction for visitors affected "moderately," a 60 percent reduction for visitors affected "very much," and an 80 percent reduction for visitors affected "extremely." In recognition of the uncertainty surrounding this assumption, one-half of these percentage reductions were used to calculate an alternative benefit estimate. These alternative benefit estimates, rounded to thousands of dollars, are presented below.

<u>Alternative Estimates of Use Benefits</u>		
Total Present Value Over a Two-Year Evaluation Period Due to the Commercial Air Tour Limitation		
Visitor-Day Value Reduction Assumption	-----Discount Rate-----	
(Slightly, Moderately, Very Much, Extremely)	three percent	seven percent
20%, 40%, 60%, 80%	\$2,648,000	\$2,494,000
10%, 20%, 30%, 40%	\$1,324,000	\$1,247,000

<u>Alternative Estimates of Use Benefits</u>		
Total Present Value Over a Five-Year Evaluation Period Due to the Commercial Air Tour Limitation		
Visitor-Day Value Reduction Assumption	-----Discount Rate-----	
(Slightly, Moderately, Very Much, Extremely)	three percent	seven percent
20%, 40%, 60%, 80%	\$9,510,000	\$8,367,000
10%, 20%, 30%, 40%	\$4,755,000	\$4,184,000

<u>Alternative Estimates of Use Benefits</u>		
Total Present Value Over a 10-Year Evaluation Period Due to the Commercial Air Tour Limitation		
Visitor-Day Value Reduction Assumption	-----Discount Rate-----	
(Slightly, Moderately, Very Much, Extremely)	three percent	seven percent
20%, 40%, 60%, 80%	\$25,831,000	\$20,360,000
10%, 20%, 30%, 40%	\$12,916,000	\$10,180,000

The FAA and NPS believe that discounted use benefits from this rulemaking are reflected by either the three percent discount rate (however, the FAA usually uses a seven percent discount rate) and that the visitor-day value reductions of 20%, 40%, 60%, and 80% with a resulting total present value of \$25.83 million (\$20.36 million when discounted at 7 percent for the 10-year evaluation period). Economic literature supports a three percent discount rate for natural resource valuation while a seven percent discount rate is recommended in OMB Circular A-94. In addition, the assumed 20%, 40%, 60%, and 80% reductions appear to span the surveyed "slightly," "moderately," "very much," and "extremely" impact descriptions appropriately.

The rule being analyzed only limits the number of commercial air tours, as reflected in the above benefits analysis. However, that limitation will likely occur at about the same time as the change in routes. Therefore, alternative benefit estimates were calculated using the same

methodology described above, but applying the predicted noise reductions due to both the limitation on commercial air tours and the change in routes. These alternative benefit estimates, rounded to thousands of dollars, are presented below.

<u>Alternative Estimates of Use Benefits</u>		
Total Present Value Over a Two-Year Evaluation Period Due to the Commercial Air Tour Limitation and Change in Routes		
Visitor-Day Value Reduction Assumption	-----Discount Rate-----	
(Slightly, Moderately, Very Much, Extremely)	three percent	seven percent
20%, 40%, 60%, 80%	\$10,303,000	\$9,729,000
10%, 20%, 30%, 40%	\$5,152,000	\$4,865,000

<u>Alternative Estimates of Use Benefits</u>		
Total Present Value Over a Five-Year Evaluation Period Due to the Commercial Air Tour Limitation and Change in Routes		
Visitor-Day Value Reduction Assumption	----- --Discount Rate-----	
(Slightly, Moderately, Very Much, Extremely)	three percent	seven percent
20%, 40%, 60%, 80%	\$27,061,000	\$24,117,000
10%, 20%, 30%, 40%	\$13,531,000	\$12,059,000

<u>Alternative Estimates of Use Benefits</u>		
Total Present Value Over a Ten-Year Evaluation Period Due to the Commercial Air Tour Limitation and Change in Routes		
Visitor-Day Value Reduction Assumption	-----Discount Rate-----	
(Slightly, Moderately, Very Much, Extremely)	three percent	seven percent
20%, 40%, 60%, 80%	\$56,536,000	\$45,864,000
10%, 20%, 30%, 40%	\$28,268,000	\$22,932,000

Benefits of Air Tourists

The use benefits perceived by individuals taking air tours will likely decrease as a result of this rulemaking. This is due to a reduction in the number of individuals that will be able to take air tours because of the commercial air tour limitation. FAA estimates that the number of commercial air tours in **GCNP** would increase an average of 3.3 percent per year without this rulemaking. The effect of the commercial air tour limitation will be to reduce the number of air tours on affected routes by the amount of growth that would otherwise occur.

FAA estimates that commercial air tours serving approximately 530,000 air tourists in the May 1997 - April 1998 base year will be subject to the limitation. Assuming that the passenger capacity and load factors for those flights remain constant, the impact of the commercial air tour limitation will be to eliminate the average 3.3 percent annual growth rate in air tourists that would otherwise occur. That growth represents, a total of 1,490,000 air tourists from 2000 to 2009. That number overstates the impact on air tourists to the extent that passenger capacity and/or load factors of affected commercial air tours increase over the evaluation period.

FAA is not aware of any economic study that estimates the consumer surplus of individuals taking scenic air tours over National Parks similar to **GCNP**. Therefore, the reduction in use benefits accruing to air tourists could not be estimated. Nevertheless, the effect of the commercial air tour limitation on air tourists is expected to reduce the overall benefits attributable to this rulemaking.

The undiscounted total use benefits of ground tourists from 2000 to 2009 was estimated above as \$31.29 million, given the commercial air tour

limitation only. Dividing that value by the estimated 1,490,000 individuals who will be potentially excluded from taking air tours over the same period indicates a threshold value for air tourists of \$18.70 per visitor-day. As noted above, FAA was unable to estimate the visitor-day value of air tourists, given the available data. Nevertheless, an average visitor-day value for air tourists that exceeds that threshold value would suggest the use benefit losses of air tourists exceed the use benefit gains of ground tourists. The threshold value for air tourists given both the commercial air tour limitation and route changes is \$40.06 per visitor-day.

It is important to recognize that this simple analysis of air tourist use benefits does not necessarily indicate a complete loss of benefits associated with this rulemaking. As noted above, increases in either the passenger capacity or load factors of affected commercial air tours will decrease the reduction in use benefits of air tourists. Additionally, there are potentially significant non-use benefits from this rulemaking. Those benefits are discussed below.

Non-Use Benefits

In addition to these use benefits, this rulemaking may generate significant non-use benefits. The FAA does not have adequate data to estimate the non-use benefits of aircraft noise reduction at GCNP. However, there are other studies that do suggest potentially significant non-use benefits that might be attributed to this rulemaking. One such study was done for the Bureau of Reclamation regarding the operation of the Glen Canyon Dam (Hagler Bailly Consulting 1995). A national survey was conducted for this study, indicating significant non-use benefits for changes in Glen Canyon Dam operations. While the magnitude of non-use benefits estimated in that study is not directly applicable to this

rulemaking, potentially significant non-use benefits associated with aircraft noise reduction are suggested.

4.C. Benefits to Native American Communities

Benefits of this rulemaking and the associated airspace rulemaking and changes to the commercial air tour routes also include those accruing to several local Native American cultural and religious practices. The overall size of the 20 LAEQ12hr noise exposure area over tribal lands will be reduced as a result of these actions. This rulemaking and related actions will also reduce air tour aircraft noise levels from existing noise levels over certain traditional cultural properties and ensure increased privacy and protect Native American religious practices (however, some traditional cultural properties in the vicinity of the direct routes from Las Vegas to the Grand Canyon Airport will receive an increase in noise).

5. Costs of Compliance and Regulatory Flexibility Determination and Analysis

This chapter contains an analysis of the costs of the FAA's final rule that would limit the number of commercial air tours that may be conducted in the GCNP SFRA. It will also revise the reporting requirements for certificate holders conducting commercial SFRA operations in the GCNP SFRA.

The final rule will impact all business entities conducting commercial air tours over the GCNP. Data collected for the baseline period shows that there were 25 such entities (24 operators, one of whom operated as an airplane operator as well as a helicopter operator) at that time.¹⁹

All of the entities are "small" as defined by the Small Business Administration (SBA) . Since every air tour operator doing business in GCNP will be impacted and they all satisfy the definition of a "small business", the FAA concludes that there will be a significant economic impact on a substantial number of small entities. Consequently, the FAA has, in conducting this analysis of compliance costs, included a regulatory flexibility analysis as required by the Regulatory Flexibility Act.

The total cost of this rulemaking will depend to a large extent on the response to the changes on the part of commercial air tour operators. The FAA estimates that the regulation will result in a potential reduction in future net operating revenue of \$197.36 million or \$127.3 million discounted over the next ten years.²⁰ Additionally, the FAA estimates that there would be approximately \$22,320 (\$20,860 discounted) start-up costs to operators to implement the flight plan (i.e., filing, activating, and closing a flight plan) adopted from this rulemaking.

For quarterly reporting and the other provisions of the rule (requesting modification and initial allocations and transfer of allocations), the cost to air tour operators is estimated to be \$30,000 over ten years or \$23,000, discounted. Finally, the FAA costs over the next 10 years (including initial allocations) will be \$1.06 million or \$746,400 discounted.

¹⁹ As of April 1999, one of these 25 air tour entities ceased operating.

²⁰ For purposes of the regulatory flexibility analysis and the impact on small businesses, the FAA calculated the cost of several alternatives. These are called operating alternatives. The FAA, in addition, considered several implementing and paperwork alternatives. These latter alternatives are used to monitor compliance.

In sum, the total cost of this rule over the next 10 years will be **\$155.4** million or **\$100.3** million, discounted. A summary of the compliance cost components as well as various alternatives that were under consideration while the final rule was under development is shown in Table 1 in the Appendix.

A) Revenue Impact of Compliance Model

The main economic impact resulting from the commercial air tour limitation in the **GCNP SFRA** is the reduction in potential future net operating **revenue**.²¹ This can be calculated by subtracting the net operating revenue associated with the projected future number of commercial air tours under the air tour limitation from the net operating revenue associated with the projected future number of commercial air tours without the air tour limitation.

In addition to the reduction in potential future net operating revenue, there are other costs associated with the requirements of this rule. They include implementation costs (e.g., developing and filing flight plans) and certain reporting requirement costs (e.g., quarterly reporting to the FAA and transfer of allocations).

Initial Allocation of Air Tours

²¹ It becomes less likely that all operators could earn a profit or cover overhead costs as a result of this rule. Operators wanting to conduct more air tours will be restricted from earning additional revenue which could be used to contribute toward their fixed or **overhead** costs without acquiring additional allocations from other certificate holders. Such an acquisition will likely involve the transfer of monies. It may be difficult for some operators to fund such an acquisition because they will be facing a cash shortage due to limited earnings.

The number of commercial air tours conducted during the base period was used for determining the number of air tours in this analysis. This information, by operator and by route, was provided to the FAA in accordance with current Title **14 CFR §93.317**. The FAA then aggregated this information into four major markets (fixed wing [Blue Routes], helicopter [Green 4 route], fixed wing [Black routes], and helicopter [Green 1, **1A**, and 2 routes]). Under the final rule, each air tour operator who conducted and reported an air tour under existing **§93.317** and who currently holds operations specifications for the **GCNP SFRA** will receive one allocation for each air tour reported.

Under the final rule, allocations will be separated into those that may be used in the Dragon and **Zuni** Point Corridors and those that may be used in the rest of the **SFRA**. Dragon and **Zuni** Point Corridors allocations again will be based on the number of air tours an operator reported in those corridors during the base year period. Operators conducting no commercial air tours in these corridors during the base year period will receive no allocations for the Dragon and **Zuni** Point Corridors.

Calculation of Baseline Number of Passengers

The baseline number of passengers was determined for each operator in this analysis in a four-step process using data provided from interviews and surveys of the affected air tour operators. First, the FAA determined by route how many aircraft and which make of aircraft were used in the base year time period. Second, the FAA identified the maximum number of passengers that each aircraft can legally carry. Next, the FAA determined the load factor for type of aircraft on each route by operator; in some cases, air tour operators were able to provide the FAA this estimate by time of year. In the absence of an operator provided load factor, the FAA assumed a load factor of 90 percent. After calculating the number of passengers for each route and for each type of aircraft, the FAA was able to sum this information and determine, by market area in the Grand Canyon, the baseline number of passengers.

Calculation of Baseline Gross **Operating** Revenue

The baseline gross operating revenue was calculated for each operator for each route in this analysis using data provided from published advertisements from air tour operators on the price of each type of air tour. The baseline period gross operating revenue by route was calculated by multiplying the estimated number of passengers that flew on a specific route for a specific operator by the published retail fare. For example, if an air tour operator published an air fare as \$199 for a particular route, that estimate was multiplied by the estimated number of passengers flown annually. No fare discounts were assumed.

Calculation of Baseline Variable Operating Cost

Variable operating costs for **GCNP** air tour operators are defined as the costs for crews, fuel and oil, and maintenance per flight hour.**

Estimates of the flight time on a particular route and aircraft were obtained from air tour pilots and individuals in the Las Vegas **FSDO**. To calculate the variable operating cost for a particular route and type of aircraft, the FAA multiplied the hourly variable operating costs by the time to fly the particular route. In a few instances, the travel time was unavailable, so the FAA estimated the time using information from other air tours to calculate the time needed to complete those tours.

Calculation of Baseline Net Operating Revenue

Baseline net operating revenue for each aircraft by route is the difference between the gross operating revenue for each route by aircraft and the variable operating costs for each route by aircraft. An air tour operator's total net operating revenue is the sum of the net operating revenues from all of the routes used by that air tour operator.

Forecast of Growth

The **FAA** forecast rate of compound annual growth in the **GCNP** is estimated at 3.3 percent per year. This growth rate was derived from a composite of tower operations of four Las Vegas vicinity airports and those of

²² The data by type of aircraft can be found on Table 4-20 of Economic Values for Evaluation of Federal Aviation Administration Investment and Regulatory Programs published by the Federal Aviation Administration, **FAA-APO-98-8**, June 1998.

Tusayan as reported in the 1994 Tower Activity Forecast (TAF). It represents different rates of growth at the West and East ends of GCNP.

Calculation of Future Monthly Operations Without the Final Rule

Commercial air tours in GCNP currently are fixed to the extent that air tour operators cannot increase the number of aircraft shown on their operations specifications for use in the GCNP SFRA. This does not preclude those operators from conducting more air tours using the same aircraft. The FAA estimated the future number of monthly operations without the final rule using projections as described above for each route by aircraft type and by operator. In some cases, it would not be feasible to conduct more air tours in a given day because the aircraft were already used to their fullest extent practical and the number of aircraft cannot be increased due to the aircraft cap.

Estimating the reduction of Future Commercial Air Tours (1-yr, 2-yr, 5-yr, and 10-yr rule)

The final rule assumes that the allocations awarded to each operator will be valid for a two-year period. The FAA and NPS will continue to monitor and review air tour information obtained through operator reports and flight filing plans during this time frame. After that time, the air tour operators' allocations may be revised if the FAA and NPS, as a result of additional noise modeling, believe noise at GCNP has not been sufficiently mitigated.

In this analysis the FAA assumed that this allocation would continue beyond 2 years. Therefore, the FAA is presenting the lost future growth in commercial air tours under 3 alternative time frames: a-years, 5-

years and 10-years. These alternative time frames are presented in aggregate rather than by individual operator. The analysis also shows what the impact will be to the affected air tour operators during the first year that the rule will be in effect (2000) and includes initial and/or one-time costs.

Calculating the Present Value of Net Operating Revenue of the Final Rule and Alternatives

All present value calculations for costs of the final rule and the alternatives under consideration have been discounted at 7 percent. As stated previously, the time frame for the alternatives is two years, five years and ten years.

Other Model Considerations

The analysis does not take into consideration that some air tour operators could switch from smaller-sized aircraft to larger-sized aircraft. Consequently, in this analysis, the number of available seats is fixed throughout the entire time period. Holding the number of seats constant and assuming that more individuals will want to take air tours in the future implies that air tour operators should be able to raise air tour prices. This analysis does not consider a new equilibrium price given that supply becomes fixed while demand increases.

B) Cost of Operating Scenario to Operators - Uniform Year With No Peak/Off Peak Delineation on Commercial Air Tours²⁴

In the NPRM analysis, the FAA examined three operating scenario alternatives - a 5-month peak season, a 3-month peak season, and a uniform year with no peak/off peak delineation. In the final rule, the

FAA is not adopting any peak season apportionment for allocations.

Based on these decisions:

- After the first two years, the certificate holder's allocations may be revised based on the data submitted under §93.325; an updated noise analysis; and/or the status of the Comprehensive Noise Management Plan.
- Allocations will be separated into those that may be used in the Dragon and Zuni Point Corridors and those that may be used in the rest of the SFRA except in the Dragon and Zuni Point Corridors. Dragon and Zuni Point Corridor allocations again will be determined based on the number of operations an air tour operator reported in this region for the baseline period. Operators reporting no operations in these corridors for the base year will receive no allocations for this region.

Table 2 shows a profile of operators, by route and other variables, that were operating in the GCNP during the base year. This table shows that most (10) air tour operators used airplanes on the Blue Routes. The operators on the Blue Routes flew over half of all the passengers (363,000/642,000 = 57 percent) during the baseline period. Table 2 also shows the projected number of air tours and passengers over the first two, the first five, and the first ten years, assuming no growth. Tables 2a through 2d show similar information except by individual operator for the base year. Each operator is represented by a numerical code in this analysis.

Table 3 presents profiles of the affected air tour operators over various time periods. This table shows the expected gross operating

²⁴ An operating scenario refers only to those scenarios that impose a

revenue, variable operating costs, net operating revenue, and **discounted** net operating revenue assuming no change in the existing regulatory environment. Tables **3a** through **3d** show similar information except for individual operators for the 10-year time period **2000-2001** to **2009-2010**. Table 4 shows the undiscounted and discounted net present values by route over the first 2 years, first 5 years, and first **10** years. These changes in net operating revenue are the projected costs associated with limiting operations. Tables **4a** through **4d** show the results of this analysis by route and by operator.

The final rule will limit all commercial air tours in the **GCNP SFRA** on a **12** month basis so that such operations conducted by certificate holders in the **SFRA** do not exceed the amount of air tours reported in accordance with current **\$93.317** for the base year. The number of commercial air tours that a certificate holder can conduct will be shown on the certificate holder's operations specifications as allocations. Unlike the **NPRM**, the final rule will not require the allocations to be divided between the off-peak, winter season and the peak, summer season.

C) Revisions in Accordance with Specific Rule Changes In Consideration of the Tribe and Substantial Economic Impact

In the "Commercial Air Tour Industry Profile" section of the Introduction, the FAA noted that up to **90** percent of the helicopter and **10** percent of the airplane tours that are conducted along the **SFAR 50-2** Green 4 and Blue 2 air tour routes respectively, land on the **Hualapai** Indian Reservation (the Reservation) either along the Colorado River, or at Grand Canyon West Airport (**GCW**), or both. These percentages were derived from supplemental information obtained by the FAA in conjunction with the data analyzed for the baseline period, May 1, 1997 through April 30, 1998. Both the helicopter and airplane tours landing at the

commercial air tour limitation on **GCNP** air tour operators.

Reservation are a significant source of income and employment to the **Hualapai** Indian Nation (the Tribe).

According to comments submitted to the FAA by the **Hualapai** Indian Tribe's Grand Canyon Resort Corporation (**GCRC**), the revenues derived from these tours "substantially fund the **Hualapai** Tribal government and assist in maintaining **Hualapai** communities".²⁵ Furthermore, the **GCRC** notes that the airport, **GCW**, represents "the economic foundation for the Tribal government and Tribal communities." The Tribe estimates that over **45** percent of its annual operating budget (one operator who has been doing business with the Tribe for several years estimates the percentage to be as much as two-thirds) is funded by the revenues derived from the air tours conducted to the Reservation along the Green 4 and Blue 2 routes. Revenues derived from **GCW** operations fund all public works programs including public water and sewer systems, solid waste operations, and maintenance of Federally funded facilities and Tribal roads. About **40** percent of **Hualapai** community members are tribal government employees, and, again, revenues derived from **GCW** operations are the principal funding source for their programs and positions.

The **Hualapai** Reservation encompasses approximately 1 million acres

²⁵ The Grand Canyon Resort Corporation (**GCRC**) is a federally chartered corporation under Section 17 of the Indian Reorganization Act of 1934, and is owned by the **Hualapai** Tribe. The **GCRC** has two primary purposes: 1) to create employment on the **Hualapai** Reservation for tribal members; and 2) to provide revenues to the **Hualapai** Tribe. Under a management agreement between the Tribe and the **GCRC**, **GCRC** is given the authority to manage the Tribe's businesses but is required to provide **15** percent of its revenues or a minimum of **\$600,000** to the Tribe, annually. The money from the management agreement and the landing fees paid by the air tour operators is deposited into the Tribe's general fund which is used to fund all departments of the Tribe. These departments include the Tribal Council and Administration, the General Administrative Department of the Tribe, the Department of Public Services, the Range Water Department, the Human Resources Department, the Cultural Resources Office, the Education Office, the Judicial Department, and the Social Services Department. Additionally, funds support the public prosecutor, a roads department, elderly programs, health programs and supplements to training, head start, youth programs and community planner.

adjoining the southwestern quadrant of **GCNP** and includes **108** miles of the Colorado River through the Grand Canyon. There are about **2,200 Hualapai** Tribal Members, **1,800** of whom reside on the Reservation including **1,000** enrolled tribal members. Most live in Peach Springs, the Tribal capital and principal residential area of the Reservation. The majority of the Reservation's inhabitants live below the poverty level (**\$3,630** per capita income in the **1990** Census), and unemployment was estimated in **1995** by the Bureau of Indian Affairs (**BIA**) and the Tribe to range from **50-70** percent of the adult population. According to the U.S. Department of Housing and Urban Development, **80** percent of the Tribe was below the Department's Very Low Income Standard in **1991**.

Grand Canyon West, where **GCW** airport is situated, is an area of approximately **9,000** acres in the northwest corner of the Reservation about **60** miles from Peach Springs. The Tribe has designated this area for economic development through tourism and has invested over **\$15** million since **1988** on improvements and on infrastructure to accommodate further tourism development. The Tribe believes that the tourism business is the primary means by which to address its high unemployment rate while preserving the Tribe's natural and cultural resources. The **GCRC** notes in its comments that it employs **35** full-time **Hualapai** employees and another **20** seasonal employees, and the air tour operators employ an additional **15 Hualapai** Tribal Members. Currently, no permanent residences exist at **GCW** and those employed at Grand Canyon West make a daily commute between Peach Springs and **GCW** over hazardous, unimproved roads.

In the **NPRM**, the FAA considered the impact of an operations limitation on the Tribe within the context of the **2.5** multiplier. However, the FAA, through comments and testimony offered at the Las Vegas public hearing held in August **1999**, believes the direct impact to the Tribe is

more severe than initially believed. Specifically, a substantial part of the overall Tribal economic development plan is wholly dependent on an air tour industry being permitted to conduct operations on the Reservation and to **GCW** as noted above. Therefore, in this Final Rule, the FAA has determined that it will not impose a limitation on certain air tours to the Reservation due to the significant adverse economic impact on the Tribe so long as these tours are operated in compliance with §93.319(f). The FAA is making this exception as a result of its understanding and conclusion that limiting tours on the Green 4 and Blue 2 routes that land on the Reservation along the Colorado River and/or at **GCW** will cause substantial harm to the Tribe.

Impact of Exception on the Tribe

The FAA has developed the following cost analysis germane to the economic development of the Tribe in light of the current rulemaking. This analysis assesses the potential impact on the Tribe of the cost relief associated with the exception. For purposes of this analysis **only**, the FAA is adopting May 1, 1998 through April 30, 1999, as the more appropriate baseline with which to construct its estimates because the FAA believes this baseline more accurately portrays the current economic activity at **GCW** and the Reservation. The reasons for this are twofold. First, after the completion of federally funded airport renovations and runway **re-surfacing** during the fall of 1997, air tours and tourism to the Reservation significantly increased. Second, a helicopter operator, well established in the **Tusayan** air tour market, expanded operations to the West-end and began conducting helicopter tours in support of the Tribe after the close of the May 1, 1997 through April 30, 1998 baseline period. Although this operator is not eligible to receive an additional allocation for its West-end business under **this** rulemaking, the operator and the Tribe will benefit from the FAA

exception for tours conducted to the Reservation. In neither instance would the effects of these events be accounted for if the May 1, 1997 through April 30, 1998 baseline were used.

Comparing the May 1, 1998 through April 30, 1999 baseline to the May 1, 1997 through April 30, 1998 baseline, the FAA estimates that all air tours conducted along the Blue 2 and Green 4 SFAR 50-2 air tour routes increased to about 21,850 (10,950 airplane; 10,900 helicopter), inclusive of the air tours conducted by the helicopter operator who began operations in 1998 after the end of the base year. All of this increase can be attributed to the increase in helicopter tours along the Green 4 route. The 21,850 air tours were conducted by 10 airplane and 5 helicopter operators, and carried approximately 130,000 passengers that generated \$24.3 million in gross operating revenue. Of these fifteen operators, nine (5 airplane; 4 helicopter) including the additional start-up helicopter operator, hold "trespass" permits and maintain contracts with the Tribe to land on the Reservation and at GCW. This sub-group of operators conducted 10,700 air tours carrying 55,700 passengers that generated approximately \$16.6 million in gross operating revenue during the May 1, 1998 through April 30, 1999 baseline period.

Based on information provided to the FAA by the GCRC and the Grand Canyon Air Tour Council (GCATC) which represents the operators maintaining contracts with the Tribe, the FAA estimates that during the May 1, 1998 through April 30, 1999 baseline period these air tours generated \$267,500 ($\$25 \times 10,700$ air tours) in landing fees and approximately \$1.8 million ($\$32 \times 55,700$ passengers) in revenue derived from the guided ground tour and lunch provided by the Tribe. Each operator pays a \$200 annual trespass permit fee to the Tribe and each helicopter operator makes a \$5,000 monthly lease payment to the Tribe for its below Canyon rim landings along the Colorado River in addition

to **GCW** landing fees. This adds another **\$241,800** in annual revenue derived by the Tribe from the air tours conducted on the Green 4 and Blue 2 air tour routes that include below rim landings (helicopter) and landings at **GCW** (helicopter and airplane) and ground tours of the Reservation. An additional source of revenue to the Tribe is derived from the sales of crafts and souvenirs to the ground tourists, but the FAA was not furnished with revenue estimates for this business. Thus, the Tribe collects more than **\$2.3** million annually from air tour operators in the form of landing fees, monthly leases, trespass permits and per passenger payments for a Reservation guided tour and lunch plus an unspecified amount derived from passenger purchases of crafts and souvenirs.

These revenues are summarized in the first column of the table below. The second column of values reflect the cost relief over the next ten years associated with these revenue sources as a result of excepting the air tours that provide economic support to the Tribe. This cost relief to the Tribe is discussed next.

**Income and Sources of Income Derived by the Tribe
From Its Air Tour Business**

	<u>(Baseline Period)</u>	<u>Cost Relief (2000-2009)</u>
Landing Fees	\$267,500	\$643,400
Ground Tours	\$1,800,000	\$4,284,200
Trespass Fees	\$1,800	NA
Lease Payments	<u>\$240,000</u>	<u>NA</u>
Total Revenue	\$2,309,300	\$4,927,600

Assuming the **3.3** percent compound annual rate of growth, the FAA estimates that in the absence of an exception being extended to those air tours conducted along the Blue 2 and Green 4 **SFAR 50-2** air tour

routes to the Reservation, the Tribe will be required to forego the potential revenue generated from an additional 25,700 air tours carrying 133,900 passengers over the 2000-2009 time period. The restoration to the Tribe of future revenue over the years 2000-2009 resulting from the elimination of operations limitations on those tours conducted to the Reservation and GCW will be approximately \$643,400 in landing fees and \$4.3 million in ground tour revenue (see second column of preceding table). This estimate of restored revenue does not include the value of the trespass permits or the lease payments which are unaffected by the rulemaking, nor does it include an upward adjustment for the expected increase in the sales of crafts and souvenirs resulting from the exception to air tours in support of economic development of the Tribe.

Thus, this action removes a restraint placed on the Tribe's uninterrupted access to these air tours and their passengers. As noted previously, tourism revenue is a principal revenue source necessary for the Reservation's continued economic development. The FAA estimates that this cost relief will be \$4.9 million (\$3.1 million, discounted) over the next ten years.

Impact of Exception on Operators Conducting Air Tours to the Reservation

The analysis that follows is concerned primarily with the operators and the tours that are conducted to GCW Airport and the Reservation via the Green 4 helicopter and Blue 2 airplane routes. To remain consistent with the overall Regulatory Evaluation and costs of this Final Rule, however, the analysis that follows will once again, be developed using the May 1, 1997 through April 30, 1998 baseline.²⁶ This is also

²⁶ Even though the West-end helicopter business in the southern Sanup region showed an increase of 27.0 percent, based on the FAA's analysis of the May 1, 1998 through April 30, 1999 baseline, air tour business throughout the Canyon was down approximately 5.7 percent when compared

consistent with the FAA position that allocations for operators of air tours in the Grand Canyon will remain as determined by the May 1, 1997 through April 30, 1998 baseline, adjusted for certain revisions.

The helicopter tours conducted on the Green 4 tour route descend below the Canyon rim landing along or just above the Colorado River at designated landing sites on the Reservation. The individual operators involved contract for these sites with the Tribe, and the tour typically remains at the river site for about a half an hour. The operators also offer options such as extending further along the Green 4 route after departing the river site. The more recent tendency, however, has been for most of these tours to exit via Quartermaster Canyon to GCW airport for an additional ground tour and lunch on the Reservation. The FAA believes that this will likely continue to be the preferred or even exclusive option with the modification to the Green 4 route introduced in the Notice of Route Availability.

The airplane tours conducted on the Blue 2 air tour route that land at GCW also exit the SFRA via Quartermaster Canyon and include a guided ground tour of the Reservation with lunch. More recently, however, several airplane operators have made arrangements with helicopter operators whereby airplane tour passengers arriving at GCW can take advantage of a short, below the rim helicopter offering. This Canyon descent or over-the-edge helicopter tour lands at one of the helicopter operator's designated landing sites on the Reservation and never enters

to the May 1, 1997 through April 30, 1998 baseline. To use the more recent May 1, 1998 through April 30, 1999 baseline for the West-end helicopter operators only, would be analytically biased and to use it for all air tours and air tour markets (e.g. Las Vegas to Tusayan market:: and the Tusayan helicopter and airplane tour markets) would not be to the advantage of the operators.

the SFRA.²⁷

The Canyon descent tour is a means by which the helicopter operators maximize the use of their equipment. The helicopters typically used for these tours would otherwise be idle while the passengers arriving on them at GCW are on the Reservation ground tour or at lunch after their helicopter tour along the Green 4 route. However, because the Canyon descent tours are conducted wholly on the Reservation and not in the SFRA, they were not required to be reported under §93.317. Thus, the FAA cannot estimate the number of these tours because the FAA has no statistics on the number of airplane tours that include the helicopter Canyon descent tour for its passengers. Additionally, the FAA does not have information with regard to the bus charters that provide additional passengers for this helicopter tour.

Based on the revised data for the base year May 1, 1997 through April 30, 1998, the FAA estimates that about 19,200 (11,300 airplane; 7,900 helicopter) air tours were conducted along the Blue 2 and Green 4 air tour routes extending from Pearce Ferry along both sides of the Colorado River north of and over the Reservation. These air tours were conducted by 10 airplane and 4 helicopter operators and carried approximately 119,000 passengers that generated \$19.9 million in gross operating revenue (\$16.2 million in net operating revenue).²⁸ Using the 3.3 percent compound annual rate of growth, if no exception were granted for

²⁷ Some helicopter operators also maintain contracts with charter bus companies bringing tourists to the Reservation for the ground tour and lunch. This provides another source of passengers for the Canyon descent tours. The Canyon descent flights that depart from GCW and descend into the Grand Canyon and land on the Reservation side of the Colorado River are not covered by this rule provided they are conducted solely within the boundaries of the Reservation.

²⁸ This base year summary does not include the helicopter operator noted in the previous Tribal impact analysis because this operator was not in business during the May 1, 1997 through April 30, 1998 time frame.

those operations that support the economic development of the Tribe, the FAA estimates that the part of the \$198.4 million cost of the final rule attributable to an operations limitation being extended to all air tours conducted along the Green 4 and Blue 2 air tour routes would be approximately \$58.3 million (\$37.6 million, discounted) in gross operating revenue losses and \$48.3 million (\$31.4 million, discounted) in net operating revenue losses for the years 2000 through 2009.²⁹

By excepting the air tours conducted along the Green 4 and Blue 2 air tour routes that are conducted in support of the Tribe, the FAA has reduced the overall cost (net operating revenue) of this Final Rule by \$43.9 million (\$28.5 million, discounted) to \$154.5 million (\$99.5 million, discounted) for the ten-year period 2000-2009. These amounts were calculated based on an estimated reduction in air tours and air tour passengers of approximately 51,550 and 320,500, respectively for the same ten-year time frame. This assumes that the operators currently holding contracts with the Tribe as well as those that do not will remain unchanged. The two-year gross operating revenue losses would be \$4.6 million (\$4.1 million, discounted) and the five year gross operating revenue losses would be \$16.8 million (\$13.24 million, discounted). The two-year net operating revenue losses would be \$4.3 million (\$3.9 million, discounted) and the five year net operating revenue losses would be \$14.2 million (\$11.4 million, discounted). These estimates were also calculated based on an estimated reduction in air tours and air tour passengers, respectively, of approximately 4,400

²⁹ Because the aforementioned helicopter operator will be allowed to continue to provide Grand Canyon air tours on the West-end with the exception, these and all remaining forecast estimates developed in this section include this operator's projected business. This gives rise to a minor discrepancy between the total cost of the rule that takes into account the cost relief accruing to this operator in addition to those in business during the base year as illustrated in this section, and the total cost of the rule in which cost relief is evaluated only for those operators in business during the base year.

and 27,450 for two years, and 16,300 and 101,100 for five years.

Thus, by excepting those air tours conducted along the Green 4 and Blue 2 air tour routes that are in support of the Tribe, the FAA estimates that the actual amount of the cost contributed to the total cost of this final rule will be reduced to \$5.1 million (\$3.3 million, discounted) in gross operating revenue losses and \$4.5 million (\$2.9 million, discounted) in net operating revenue losses for the years 2000 through 2009. The two-year gross operating revenue losses would be \$438,000 (\$394,000, discounted) and the five year gross operating revenue losses would be \$1.6 million (\$1.3 million, discounted). The two-year net operating revenue losses would be \$435,000 (\$393,000, discounted) and the five year net operating revenue losses would be \$1.4 million (\$1.2 million, discounted). The derivation of this reduction is two-fold.

In the absence of the exception, the FAA estimates the portion of the above costs that are directly associated with a 3.3 percent growth in the current level of tours conducted along the two air tour routes in support of Tribal economic development is \$34.2 million (\$22.1 million, discounted) in reduced gross operating revenue and \$31.2 million (\$20.25 million, discounted) in reduced net operating revenue for the years 2000-2009. This is based on reductions in air tours and passengers of 22,000 and 119,200, respectively, resulting from the operations limitation part of the final rule. The two-year gross operating revenue losses would be \$2.9 million (\$2.6 million, discounted) and the five year gross operating revenue losses would be \$10.8 million (\$8.6 million, discounted). The two-year net operating revenue losses would be \$3.0 million (\$2.7 million, discounted) and the five year net operating revenue losses would be \$10.1 million (\$8.1 million, discounted). These estimates are based on reductions in air tours and air tour passengers, respectively, of approximately 1,900 and 10,200 for

two years, and 6,900 and 37,600 for five years.

The FAA has determined that those operators currently holding contracts with the **Hualapai** will also receive their allocations as originally established. The FAA has made this determination because the data reported in the baseline period does not reflect the number of air tours conducted along the Green 4 and Blue 2 routes that deviate from these routes to land at the **Reservation**.³⁰ The FAA, however, obtained sufficient information through field interviews with the operators to estimate the percentage of these air tours that deviate to exit the **SFRA** from the Green 4 and Blue 2 routes, and from this information has been able to develop estimates for the number of such air tour deviations that land at **GCW**.³¹

³⁰ Under §93.317, operators of Grand Canyon air tours were only required to provide the FAA with route information identifying the specific routes on which the air tours were conducted. Information concerning deviations from the routes was neither required nor provided in the trimester reports.

³¹ In the case of airplane tours conducted along the Blue 2 route, operators provided the FAA with percentage estimates of such tours that deviated (usually at Quartermaster Canyon) from the Blue 2 and indicated that such a deviation was typically for the purpose of landing at **GCW** to provide the passengers with additional tour time on the Reservation. This allowed the FAA to distinguish between airplane tours conducted along the Blue 2 route in support of the **Hualapai (GCW deviation)**, and airplane tours that were air only tours that reversed to return via the Blue 2 route.

However, in the case of helicopter tours conducted along the Green 4 route, the additional information provided to the FAA by the operators focused on the location (Quartermaster Canyon, Horse Flat Canyon, Spencer Canyon) at which the air tour deviated from the Green 4 either to exit the **SFRA** to return or to reverse to return on the Green 4. Although nearly all helicopter tours conducted along the Green 4 route by operators holding contracts with the **Hualapai** deviate from the Green 4 to exit the **SFRA**, no distinction was made between the air tours that further deviate to **GCW** prior to returning and the air tours that returned direct to Las Vegas without landing at **GCW**. Consequently, the FAA has assumed for the purposes of this analysis, that all helicopter tours along the Green 4 that exit the **SFRA** to return, also incorporate a **GCW** landing as an integral feature of the air tour.

Incorporating these assumptions into the analysis, which the FAA believes is consistent with the current state of the airplane and helicopter tour business with the **Hualapai**, maximizes the revenue

The FAA estimates that the **non-Hualapai** portion of the air tour business conducted by these operators along the Green 4 and Blue 2 routes could expand at 3.3 percent for twelve years before the cost impact of the operations limitation becomes measurable. In other words, during the ten-year time frame **2000-2009**, there will be no costs incurred by those operators maintaining contracts with the Tribe for that portion of their air tour business conducted along the Green 4 and Blue 2 routes that does not necessarily contribute to the economic development of the Tribe. The FAA estimates that the portion of the above costs associated with a 3.3 percent growth in the current level of **non-Hualapai** tours conducted along the two air tour routes is **\$19.0 million (\$12.3 million, discounted)** in reduced gross operating revenue and **\$12.7 million (\$8.2 million, discounted)** in reduced net operating revenue for the years **2000-2009**.

This also holds true for the two- and five-year scenarios. The two-year gross operating revenue losses would be **\$1.6 million (\$1.5 million, discounted)** and the five year gross operating revenue losses would be **\$6.0 million (\$4.8 million, discounted)**. The two-year net operating revenue losses would be **\$1.2 million (\$1.1 million, discounted)** and the five year net operating revenue losses would be **\$4.1 million (\$3.3 million, discounted)**.

Thus, by extending an exception from the operations limitation part of the final rule to those air tours and air tour operators who maintain contracts with and provide economic support to the Tribe, the FAA estimates the final costs of this rule attributable to air tours conducted along the Green 4 and Blue 2 air tour routes will be reduced

impacts on the **Hualapai**, both as costs without the exception and as relief with the exception.

to \$5.1 million (\$3.3 million, discounted) in gross operating revenue (\$58.3 million less \$34.2 million less \$19.0 million) and \$4.4 million (\$2.9 million, discounted) in net operating revenue (\$48.3 million less \$31.2 million less \$12.7 million) for the years 2000-2009. Similar reductions can be calculated for the two- and five-year scenarios as follows: 1) for gross operating revenue losses, the estimate is \$438,000 (\$394,000, discounted) for two years (\$5.0 million less \$2.9 million less \$1.6 million) and \$1.6 million (\$1.3 million, discounted) for five years (\$18.4 million less \$10.8 million less \$6.0); and 2) for net operating revenue losses, the estimate is \$435,000 (\$393,000, discounted) for two years (\$4.7 million less \$3.0 million less \$1.2 million) and \$1.4 million (\$1.2 million, discounted) for five years (\$15.7 million less \$10.1 million less \$4.1 million).

The overall total cost relief accruing to the operators for the years 2000-2009 provided in this Final Rule by excepting the air tour businesses that maintain contracts with the Tribe from the operations limitation component is estimated to be \$53.2 million (\$34.3 million, discounted) in gross operating revenues and \$43.9 million (\$28.5 million, discounted) in net operating revenues. The corresponding two- and five-year year cost relief is estimated to be \$4.6 million (\$4.1 million, discounted) and \$16.8 million (\$13.4 million, discount) in gross operating revenue, and \$4.3 million (\$3.9 million, discounted) and \$14.2 million (\$11.4 million, discount) in net operating revenue.

Thus, by excepting the air tours along the Green 4 and Blue 2 air tour routes that are conducted in support of the Tribe, the FAA has reduced the overall cost (net operating revenue) of this Final Rule to \$154.5 million (\$99.5 million, discounted) for the ten-year period 2000-2009. For the two- and five-year scenarios, the overall cost (net operating revenue) has been reduced to \$12.9 million (\$11.5 million, discounted)

and \$48.6 million (\$38.6 million, discounted).

D) Cost of Reporting Requirements to Operators - Reporting on a Quarterly Basis

The FAA considered two reporting requirement alternatives in the NPRM, these being quarterly reporting and trimester reporting. The existing rule requires certificate holders to report three times annually, but the final rule will change this to quarterly reporting, in §93.325. Since the existing rule already requires certificate holders to establish a system to implement the reporting requirement, the FAA assumed there will be no start-up costs to implement this requirement. It is assumed that updating is taking place throughout the entire time frame because reporting is already required. Furthermore, the FAA has assumed for this section that operators will continue to follow reporting procedures similar to those adopted by them to meet the current trimester reporting requirements. The total amount of time needed to update this information will be a function of the number of aircraft maintained by each operator. As above, the FAA assumes that it will take each operator³⁵ about 5 minutes per aircraft per day regardless of the season to record the updated information onto a master spreadsheet. The annual cost is estimated at about \$75,300 per year³⁶ or \$70,600 discounted in the first year; the reporting burden to the industry will be 3,346 hours per year. The total cost in 1998 dollars,

³⁵ Based upon communications with individuals who have conducted air tours in GCNP, the Director of Operations (DO) generally performs this function. The FAA estimates that each DO earns between \$35,000 and \$40,000 without fringe benefits; using the midpoint of these salaries means that the DO's salary with fringe benefits is \$46,875. On an hourly basis the DO is assumed to earn about \$22.50 (\$46,875/2,080 hours = \$22.53 rounded to \$22.50/hour).

³⁶ 110 aircraft/day X 0.083 hours/aircraft X 365 days/year X \$22.50/hour = \$75,281/year.

for this task would be \$753,000 or \$529,000 discounted over 10 years at 7 percent.³⁷ The two-year cost is estimated at \$150,000 or \$136,000, discounted, while the five-year cost is estimated at \$376,000 or \$309,000, discounted. This estimate is not a cost of the final rule, because this information must be continually updated under the current reporting requirement.

Under this reporting requirement scenario, the written information will have to be provided to the Las Vegas FSDO four times per year. The FAA assumes that each operator will have to collate and verify the information that they have been collecting throughout the year. The time it takes to complete these two tasks would be 2 hours per operator regardless of the number of aircraft; this assumes that the operators have been recording the information throughout the year. Given the aforementioned wage rate of a Director of Operations at \$22.50 per hour, the FAA estimates that this provision would cost each operator an additional \$45 per year for the one extra time that information is to be reported.* The FAA estimates the annual reporting burden to the industry is an extra 50 hours per year; this assumes the operator of the mixed fleet reports separately for his airplane and helicopter tour business. Thus, the total incremental cost to the industry to move to quarterly reporting is estimated at about \$11,250 for 10 years or \$7,900, discounted. The two-year cost absent the existing rule is estimated at \$2,250 or \$2,025, discounted, while the five-year cost is estimated at \$5,625 or \$4,600, discounted.

³⁷ The FAA believes that operators developing "canned" flight plans could significantly reduce the time and cost of their quarterly reporting by integrating the flight plan automation with their quarterly reporting.

³⁸ \$22.50/hour X 2 hours X 1 additional time/year = \$45 per operator.

E) Cost of Implementing the Rule to Operators - Flight Plan

In the **NPRM**, the FAA considered two alternative means of monitoring the allocations, a form system and the filing of flight plans. The requirement to file a flight plan is in the final rule.

Section 93.323 of the final rule will require each certificate holder conducting a commercial **SFRA** operation to file a visual flight rules (**VFR**) flight plan with an FAA Flight Service Station for each such flight. A flight consists of one take-off and one landing. The "remarks" section of the flight plan will be completed to indicate the purpose of the flight out of six designated purposes. The purposes will be: (1) commercial air tour; (2) transportation; (3) repositioning; (4) maintenance; (5) training/proving; or (6) operating to Grand Canyon West. The information obtained from the flight plan will be used to ensure compliance with the commercial air tour limitation. Copies will not have to be maintained by the certificate holder or carried on board the aircraft.

The extent to which an operator will be impacted will depend upon the volume of his/her commercial air tour business in **GCNP** and the number of aircraft and pilots providing air tour service. Additionally, the cost impact will be influenced by whether the operator conducts air tours daily on a regular frequency.

Relying on information from the Las Vegas **FSDO**, the FAA has identified the following four principal areas where start up costs for the larger, more regularly scheduled operators will be incurred: a) creation of "canned" **VFR** flight plans (templates) to be filed with the **Reno** or

Prescott Flight Service Station; **b)** rewriting of-existing General Operations Manuals to incorporate the new procedures; **c)** set-up of a pilot training program; and **d)** training of pilots. The FAA assumes the first three tasks and possibly the fourth, the instructing of the **pilots** in the new procedures, will be the responsibility of each operator's Director of Operations.

The FAA estimates that the DO takes about 2 days to create and file a template with the Flight Service Stations (task 'a'). Similarly, task 'b' will require about 2 days to revise the General Operations Manual, and task 'c', the development of pilot instruction in **VFR** flight plan procedures, will require another 2 days. Finally, the FAA believes that the **VFR** flight plan procedures can be presented to pilots currently conducting air tours in the Grand Canyon through an Operational Bulletin. Presentation of the procedures to new hires will be part of an operator's on-going costs; the FAA assumes each operator will incorporate this into the periodic review, modification, and update of plans, as discussed in the next section.

As noted above, the **DO's** loaded salary expressed as an hourly wage rate is assumed to be **\$22.50** per hour, while the pilots hourly rate with benefits is assumed to be **\$20.00** per hour. The FAA believes that **17** of the **25 entities**³⁹ reporting under **\$93.317** conduct daily Grand Canyon commercial air tours on a regular time schedule. The FAA also assumes that 3 over-flow operators are sufficiently large (tour volume and number of aircraft) that they are able to also conduct daily air tours

³⁹ The analysis on flight plans was based on **25** entities rather than **24** operators because it is assumed that the one mixed fleet operator will have to develop and file two distinct flight plans, one for airplane operations and one for helicopter operations.

with some regularity. Of these 20 entities, at least 4 are scheduled operators; these 20 entities employ about 225 pilots.

The remaining 5 operators conduct Grand Canyon air tours on an infrequent schedule, and operate only one or two aircraft, and typically serve as their own pilot. Because of the infrequency with which these operators conduct commercial air tours in the Canyon, the FAA does not believe they will realize any cost savings by preparing a "canned" flight plan. Thus, the FAA does not believe that this category of operators will likely incur costs associated with tasks 'a' or 'c', and estimates only two day's time required to rewrite the appropriate portions of their manual. The FAA assumes a wage rate for these owner/operators similar to that for a DO.

Using the preceding information, the FAA estimates that the total initial fixed costs to the Grand Canyon air tour operators for the VFR flight filing requirements will be about \$22,300 or \$20,900, discounted. By task, the FAA estimates the following:

- a) creation of templates - \$6,800 (\$6,400, discounted);
- b) rewriting of existing General Operations Manuals - \$8,600 (\$8,100, discounted);
- c) set-up of pilot training programs - \$6,800 (\$6,400, discounted); and
- d) training of pilots - \$0 (de minimus).

The VFR flight filing procedure requires the following sequence of activities: 1) filing a flight plan; 2) activating a flight plan; and 3) closing a flight plan. The activating and closing of a flight plan is the responsibility of the pilot-in-command and is a part of normally assigned duties. This usually takes about one to five minutes. The activation of a flight plan can also be accomplished via a telephone call to the Flight Service Station by operator staff. This will be more

efficient if there were multiple flight plans to be activated by a given operator at the same time.

Although one operator (see economic comments) estimated the costs of the flight plan in the context of an operational optimizing model, the FAA is unable to accurately assess the variable or on-going costs of the VFF flight filing plan procedures at this time. Specifically, the FAA cannot precisely account for the costs incurred by activating and closing a flight plan, nor can the FAA accurately account for the costs each operator will typically incur in filing a flight plan.

There would also be additional on-going requirements and costs imposed on the Las Vegas FSDO with \$93.323. Coordinating and cross referencing the daily air tour activity recorded by the Prescott Flight Service Station with the operator reporting requirements, and monitoring the activity for potential enforcement action will add requirements to the Las Vegas FSDO's current mission. This will exacerbate the resources and staff levels that currently exist at the Las Vegas FSDO. Some of these activities (non-enforcement) can be a part of the workload of an analyst/statistician assigned to manage the reporting requirements.

F) Cost of Other Provisions to Operators

Operators will incur costs associated with (1) requesting modification and allocations and (2) transfer of allocations. The FAA estimates that the cost of these provisions can be up to \$20,000 or \$14,000, discounted over 10 years. The following is a discussion of the costs associated with these two provisions.

Requesting Modification and Initial Allocations

The FAA recognizes that the air tour business in the GCNP is constantly changing. Thus, due to mergers/acquisitions, bankruptcies, etc., certificate holders may believe that the data submitted for May 1, 1997 through April 30, 1998 was not reflective of their business operations. Therefore, the FAA permitted any certificate holder who determines that the base year data was not reflective of its business operation to submit a written request to the Manager, Air Transportation Division requesting that revision of its initial allocation.

Ten operators requested modifications to their proposed initial allocations following publication of the NPRM. The FAA originally estimated that, on average, each operator would incur, one-time costs of between \$500 and \$1,000 (which includes one to two days work) to complete and provide the required information to the FAA. The FAA believes that this estimate was reasonable. Therefore the one-time cost to the industry would be between \$2,500 and \$5,000 (which includes ten days or 80 hours of effort) or between \$2,300 and \$4,700, discounted.

Transfer of Allocations

The FAA recognizes that air tour operators often utilize a variety of contracting/subcontracting methods to handle passenger loads during busy periods. Therefore, the FAA will allow an allocation to be transferred among certificate holders, subject to the restrictions enumerated in the Preamble of this rule. Under the final rule, all certificate holders are required to report any transfer of allocations to the Las Vegas FSDO in writing.

The FAA distinguishes between temporary and permanent transfers of allocations. In the former case, the FAA recognizes the current business practice of GCNP air tour operators to occasionally transfer

air tour bookings (usually to an overflow operator) to accommodate unexpected surges in demand that cannot be met by the operator booking the air tour. Such temporary arrangements will not require FAA approval, nor will the FAA modify the involved operators' operations specifications. Temporary transfers will still be required to be reported to the Las Vegas **FSDO** in writing.

The FAA assumes any operator costs associated with temporary transfers to be part of the on-going business cost of conducting air tours of the Grand Canyon. The FAA also assumes any costs associated with notifying the Las Vegas **FSDO** of such temporary transfers will be de **minimus**. Similarly, FAA costs associated with the processing of these written notices concerning temporary transfers will also be de **minimus**.

Permanent transfers of allocations resulting from mergers/acquisitions, bankruptcies, or other reasons that affect operations, will require FAA approval through the modification of the operations specifications in addition to the required reporting to the Las Vegas **FSDO** in writing. The FAA cannot predict how many permanent transfers might occur in the future, and, as a consequence, cannot estimate with any degree of precision what costs might be associated with a permanent transfer. The FAA, however, is aware of two acquisitions that occurred during the **base** period and offers the following example of what costs might result if **no** more than two operators were to submit requests for permanent transfers of allocations to the FAA annually.

If each operator incurs costs of between **\$500** and **\$1,000** (which includes two days effort per operator) to complete and provide the required information to the FAA, assuming two operator transfers per year, then the annual cost to the industry will be between **\$1,000** and **2,000** annually (about a total of **32** hours annually). The cost over **10** years

will be between \$10,000 and \$20,000 or between \$7,000 and \$14,000, discounted. The two-year costs are estimated at between \$2,000 and \$4,000 or between \$1,800 and \$3,600, discounted, while the five-year costs are estimated at between \$5,000 and \$10,000 or between \$4,100 and \$8,200, discounted.

Summary of Other Costs

The FAA has considered two other costs of this final rule. They are 1) the one-time fixed costs associated with the ten operators who have requested modification to their initial proposed allocations; and 2) the annual costs the FAA estimates the industry will incur to transfer allocations among the operators. The FAA estimates the one-time costs to range between \$2,500 and \$5,000 (\$2,300 to \$4,700, discounted) and the annual costs to range between \$10,000 and \$20,000 (\$7,000 to \$14,000, discounted) over the ten-year period 2000-2009. The two-year and five-year costs will range between \$2,000 and \$4,000 (\$1,800 and \$3,600, discounted) and \$5,000 and \$10,000 (\$4,100 and \$8,200, discounted), respectively.

G) Cost of the Rule to the FAA

The FAA, as a result of this rule, incurs costs in four ways. The FAA will incur costs associated with the initial allocation, recording and tracking, filing of flight plans, and transfer of allocations. Over the next 10 years, FAA costs are expected to be \$1.06 million or \$746,400 discounted. The following is a discussion of these cost components.

Initial Allocation and Recording and Tracking

Under this final rule, each certificate holder reporting commercial air tours to the FAA in accordance with current §93.317 will receive one allocation for each air tour reported during the base year period. Certificate holders identified in the NPRM as receiving allocations to conduct air tours in the SFRA will receive written notification of the following information: 1) total number of commercial air tours allocated in the GCNP SFRA; and 2) number of air tour operations allocated in the Dragon and Zuni Point Corridors.

The FAA will need to develop an allocation process and prepare the necessary information to send to each air tour operator. This one-time administrative work will require analyst, clerk, legal, and management resources. For this analysis, it is assumed to take about two weeks to set up a spreadsheet and prepare the necessary information to send to each air tour operator. The cost is estimated using wage rate for a GS-14, including all fringe benefits, of about \$47.50 per hour⁴⁰. The initial cost to implement this part of the rule will be \$3,800 in the first year only,⁴¹ while the discounted cost is \$3,600.

In addition, the FAA will incur recurring annual costs from the recording and tracking of the information provided by the operators. Again, this will require analyst, clerk, management and legal resources. For the purpose of this cost assessment, the FAA assumes that one additional agency employee will be required at the GS-14 grade level. Based on FAA resources required to record and track data provided by operators since 1997, the agency estimates that the total cost to the FAA of these elements will be about \$99,300 annually and \$992,800 over

⁴⁰ $\$74,955/2,080 \text{ hours} \times 1.3245 = \47.73 . The source of the fringe benefits factor is Table 4-5, page 4-22, Economic Analysis of Investment and Regulatory Decision--A Guide, FAA-APO-98-4, January 1998.

⁴¹ $\$47.50/\text{hour} \times 80 \text{ hours} = \$3,800$; 80 hours needed in the first year.

ten years (\$697,300, discounted). The two-year cost is estimated at \$198,600 or \$179,500 discounted. The five-year cost is estimated at \$496,400 or \$407,100 discounted.

Transfer of Allocations

Allocations to conduct air tour operations in the **GCNP SFRA** will be an operating privilege initially granted to the certificate holders who conducted air tour operations during the base year and reported them to the FAA. This allocation will be subject to reassessment after two years.

The FAA will allow an allocation to be transferred among certificate holders, subject to several restrictions. However, the FAA will retain the right to redistribute, reduce or revoke allocations based on the need to carry out its statutory mandate to regulate for efficiency of airspace or aviation safety. Additionally, the FAA can redistribute, reduce, or revoke allocations if the certificate holder voluntarily surrendered the allocation or in the event of an involuntary cessation of business operations.

The FAA estimates that, on average, the FAA will spend about **80** hours managing the transfer of allocations from each merger or **160** hours annually assuming two mergers, transfers, etc. annually. Based upon the salary of a **GS-13 employee**,⁴² the FAA estimates that cost will be about **\$6,500 annually**,⁴³ and **\$64,800** over ten years or **\$45,500**, discounted.

⁴² GS-13, Step 5, in 1998, has an annual salary of \$63,430. Dividing by 2,080 hours and then multiplying by 1.3245 (to account for a loaded wage) yields \$40.39/hour or about \$40.50/hour.

⁴³ \$40.50 X 160 hours = \$6,480; 160 hours needed annually by the FAA.

The two-year cost will be \$13,000 or \$11,700, discounted. The five-year cost will be \$32,400 or \$26,600, discounted.

In sum, the FAA will incur costs associated with the initial allocation, tracking and monitoring, filing a flight plan, and transfer of allocations. Over the next 10 years, FAA costs are expected to be \$1.06 million or \$746,400, discounted.

H) Final Regulatory Flexibility Analysis

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities (small business and small not-for-profit government jurisdictions) are not unnecessarily and disproportionately burdened by Federal regulations. The RFA, which was amended March 1996, requires regulatory agencies to review rules to determine if they have "a significant economic impact on a substantial number of small entities." The Small Business Administration defines airlines with 1,500 or fewer employees for the air transportation industry as small entities. For this final rule, the small entity group is considered to be operators conducting commercial air tours in the GCNP SFRA and having 1,500 or fewer employees.⁴⁴ The FAA has identified a total of 25 such

⁴⁴ Standard Industrial Classification Code for these small entities is 4512, which represents "Air Transportation, Scheduled" or 4522, which represents "Air Transportation, Nonscheduled."

entities (24 operators, one of whom operated as a airplane operator as well as a helicopter operator) that meet this definition.⁴⁵

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

The FAA has estimated the annualized cost impact on each of these 25 small entities potentially impacted by the rule (see Tables 3 and 3a through 3d as well as Tables 5 and 5a through 5d). The final rule is expected to impose an estimated total cost on operators of \$154.3 million (\$99.6 million, discounted). The average annualized cost over ten years is estimated at about \$960,000 (with a range of \$200 to \$6.9 million). The FAA has determined that the rule will have a significant impact on a substantial number of small entities, and has performed a regulatory flexibility analysis. As discussed earlier in this chapter, all 25 small entities will incur an economically significant impact.

Under Section 603 (b) of the RFA (as amended), each regulatory flexibility analysis is required to consider alternatives that will reduce the regulatory burden on affected small entities. The FAA has examined several alternative provisions of this final rule as discussed earlier in the analysis. In addition to considering alternatives, the FAA is also required to address these points: (1) reasons why the FAA is

⁴⁵ Twenty-four operators reported conducting air tours in the Grand Canyon during the base period. However, one operator conducts separate airplane and helicopter operations under two separately named companies. This operator is counted as two entities. Another operator conducts a large volume of airplane tours that originate from Page and other Arizona locations as well as from Las Vegas, Nevada. It, however, is counted as one entity because all tours were conducted under the same company name.

considering the rule, (2) the objectives and legal basis for the rule, (3) the kind and number of small entities to which the rule will apply, (4) the projected reporting, recordkeeping, and other compliance requirements of the rule, and (5) all Federal rules that may duplicate, overlap, or conflict with the rule.

Reasons Why the FAA is Considering the Final Rule

Public Law 100-91 recognizes that noise associated with "aircraft overflights" at the **GCNP** is causing "a significant adverse effect on the natural quiet and experience of the park." This legislation directed the **NPS** to develop recommendations to achieve the substantial restoration of natural quiet in **GCNP**. The FAA was directed, pursuant to **P.L. 100-91**, to implement these recommendations unless there was a safety reason not to do so. The FAA and **NPS** believe it is necessary to impose a commercial air tour limitation in order to stabilize noise levels in the **SFRA** while further noise analysis is conducted.

The Objectives and Legal Basis for the Final Rule

The objective of the final rule is to limit all commercial air tours in the **GCNP SFRA** on a 12-month basis. Commercial air tours conducted by certificate holders in the **SFRA** are not to exceed the amount of air tours reported in accordance with current § 93.317 for the period from **May 1, 1997** through **April 30, 1998**.

The legal basis for the rule is found in Public Law 100-91, commonly known as the National Parks Overflights Act. Public Law 100-91 stated in part, that "noise associated with aircraft overflights at **GCNP** [was] causing a significant adverse effect on the natural quiet and experience of the park and current aircraft operations at the Grand Canyon **National**:"

Park have raised serious concerns regarding public safety, including concerns regarding the safety of park users." Further congressional direction is discussed in the history section of this regulatory evaluation.

The Kind and Number of Small Entities to Which the Final Rule Will Apply

The final rule applies to 24 potentially affected part 135 commercial air tour operators, each having 1500 or fewer employees. The FAA estimates that all 24 operators (25 entities) will be impacted by the final rule. The FAA has limited financial profile information (e.g., operating revenue, operating expenses, operating profit, net operating revenue, and passenger revenue) for six of the impacted operators (see Table 6). Balance sheet information on assets and liabilities is not readily available.⁴⁶ However, the FAA received financial information from 2 air tour operators that was somewhat useful; a discussion of the material that was submitted is shown in the Appendix.

The Projected Reporting, Recordkeeping, and Other Compliance Requirements of the Final Rule

Each of the 24 operators affected by this proposal will need to comply with certain reporting requirements. Certificate holders conducting commercial SFRA operations will complete a flight plan for each flight. The FAA estimates this compliance effort can impose an additional one to five minutes on the part of the certificate holder per operation for

⁴⁶ A search was conducted for financial data on the 24 Grand Canyon operators reporting air tours during the base year period. First, the FAA examined internal databases from the Bureau of Transportation Statistics. Of the 24 operators, the FAA was able to locate limited financial data reported on Form 298C on only six operators. Next, the FAA reviewed publicly accessible databases including Standard and Poor's Register of Corporations, Moody's Transportation Manual, the Securities and Exchange Commission's EDGAR, and U.S. Business Directory. From these additional sources, the FAA was able to retrieve adequate financial information for only 2 operators.

each of the 24 small entities during each year of compliance, for a total of 4,500 hours annually.⁴⁷ This cost estimate does not account for other flights included in the term 'commercial SFRA operations.' Therefore, the FAA has limited this analysis to evaluating the costs associated with commercial air tours.

In addition, certificate holders conducting commercial air tours will need to report quarterly to the FAA certain information on the total operations conducted in the SFRA to the FAA. The FAA estimates that this compliance effort will take place four times per year (one additional time compared to the current rule) and will impose an additional 50 hours of labor on the industry annually. This provision will cause an operator, regardless of the number of aircraft, to expend an additional 2 hours of labor annually (including record maintenance).

The initial assigned allocation involved operator requests for modifications that the FAA estimates will impose about 1 to 2 person days of added work. Ten operators requested modification to their allocations. As discussed above, the FAA estimates that the paperwork burden to each of these firms will range from 8 to 16 hours.

Finally, the FAA assumes that no more than 2 operators each year are likely to submit requests for permanent transfers of allocations, e.g., to enter, leave or merge. The FAA estimates that the two firms will spend about 32 hours annually preparing the required documentation to be submitted to the FAA.

⁴⁷ This is calculated as follows: 90,000 tours x .017 hours = 1,500 hours; 90,000 tours X .083 hours = 7,500 hours. These two numbers were averaged together to obtain 4,500 hours.

Excluding the provisions that impose a one-time burden (initial allocations would affect five operators the first year annually; 80 hours total), each certificate holder will have imposed an additional annual reporting burden on average of 575 hours of labor.⁴⁸ This estimate, however, is highly dependent upon how many aircraft and how many operations the certificate holder flies per year. For a period of 10 years, a total of approximately 143,750 hours will be spent.⁴⁹

All Federal Rules that May Duplicate, Overlap, or Conflict with the Final Rule

The FAA is unaware of any federal rules that either duplicate, overlap, or conflict with the final rule.

Alternatives

Aircraft noise in the GCNP can be controlled in a number of ways. Hence, noise-reducing measures can be accomplished through any one or a combination of these methods. As directed by P.L. 100-91, NPS developed a number of recommendations to substantially restore natural quiet. These recommendations were included in NPS' 1994 Report to Congress. These recommendations included a number of different approaches to achieving the statutory mandate of P.L. 100-91. These and other recommendations considered by the NPS and the FAA include:

- Altitude restrictions
- Establishment of air tour routes
- Air tour curfews
- Limits on the number of aircraft that can be used
- Limits on number of air tour operations
- Expansion of Flight Free Zones

⁴⁸ This is calculated by summing 3,346 + 10,956 + 50 + 32, which equals 14,384; 14384/25 = 575.

⁴⁹ This is calculated by multiplying 25 small entities by 575 hours per year by 10 years, which equals 143,750 hours over ten years.

- Phase out of noisy aircraft
- Encourage use of quiet aircraft
- Establishment of aircraft noise budgets

Some of these recommendations were adopted in 1996. Others have been under consideration. The following summarize the status of each of these recommendations:

Altitude restrictions - As one alternative, aircraft could be required to fly above specific altitudes in certain parts of GCNP. The noise generated by these aircraft flying at higher altitudes would be more widely dispersed before it reached the ground than if these aircraft were flying at lower altitudes. Ground visitors would then be less likely to notice the aircraft noise the higher up they are flying. Air tour passengers, however, would see less dramatic views of the Grand Canyon when flying at higher altitudes.

The FAA has adopted this approach as one of the several options it is using to control aircraft noise in GCNP. On May 27, 1998, the FAA issued SFAR No. 50-2. This SFAR established four flight-free zones from the surface to 14,499 feet above mean sea level in the area of the Grand Canyon. On December 31, 1996, the FAA issued a final rule (61 FR 69302) which raised the ceiling of the SFRA to 17,999.

Establishment of air tour routes - Another approach used by the FAA is to contain aircraft noise to certain parts of the Grand Canyon by establishing specific air tour routes. On May 27, 1998, the FAA issued SFAR No. 50-2, which provided for special routes for air tours. On December 31, 1996, the FAA issued a final rule (61 FR 69302) which established a new FFZ and altered the boundaries of the other already established FFZ's. That rule change necessitates a change in the air tour routes, which the FAA will establish next year (enforcement of the

airspace actions in **61 FR 69302** has been delayed until after the establishment of these new routes).

The FAA may choose to do more with air tour routes. The FAA likely will restrict certain routes to quiet aircraft only. In an accompanying airspace rulemaking, the FAA is establishing an incentive corridor through the Bright Angel **FFZ** for quiet aircraft.

Air tour **curfews** - Visitors to the Grand Canyon are likely to be more annoyed by aircraft noise during certain times of the day than at other times. The FAA established air tour curfews in **61 FR 69302** to address this problem. In the summer season, air tours may not operate in the Dragon and **Zuni Point Corridors** between the hours of **6pm** and **8am**; in the winter, the curfew is between **5pm** and **9am**.

Limits on the number of aircraft that can be used - On December **31, 1996**, the *FAA* issued a final rule (**61 FR 69302**), which placed a cap on the number of "commercial sightseeing" aircraft that could operate in the **SFAR**.

The cap of the number of aircraft has been found to be ineffective by the *FAA* and **NPS**. The main reason is that the number of different aircraft used during a given time period will always exceed the average number of aircraft used to provide air tours or even the maximum number of aircraft used to provide air tours. From **May 1, 1997** through **April 30, 1998**, **229** different aircraft were used to provide air tours. The daily average number of aircraft used during that period was **110** and the maximum number used during a given day for that time period was **161**. Thus, the current cap on the number of aircraft does very little to limit aircraft to limit operations in the Grand Canyon. The *FAA* and **NPS**

are in agreement that the best way to correct the deficiencies of this approach is to move forward with a limitation on air tour flights.

Limits on the number of air tour operations - Capping the number of flights allowed in the **GCNP** is another approach for limiting aircraft noise that may be permitted in the park. This approach is being adopted by the FAA with this particular rulemaking. This final rule temporarily limits all commercial air tours in the **GCNP SFRA** on a calendar year basis so that such air tours conducted by certificate holders in the **SFRA** do not exceed the amount of air tours reported in accordance with current **§93.317** for the base year.

Expansion of Flight Free Zones - Another approach that the FAA and the **NPS** have used to control aircraft noise in the Grand Canyon is to establish Flight Free Zones. Aircraft, under this alternative are forbidden from flying over certain parts of the **GCNP**. This highly restrictive alternative is designed to protect certain areas from any noise emanating from aircraft overhead. **SFAR 50-2** established four flight-free zones from the surface to **14,499** feet mean sea level. On December 31, 1996, the FAA established a new **FFZ**, merged two existing **FFZ's**, and expanded the other two **FFZ's**.

Phase out of noisy aircraft - An approach that the FAA is currently considering is mandating that noisy aircraft be phased out of service over the Grand Canyon. In fact, the FAA issued an **NPRM** on December 31, 1996 to phase out noisy aircraft by 2008. This could be a very expensive rulemaking; out-of-pocket costs were estimated at **\$173** million (undiscounted) in the 1996 **NPRM**. These out-of-pocket costs (short-term capital outlays) would probably have had a more severe impact on the financial condition of Grand Canyon air tour operators than the current final rule which restricts future growth. All these

costs out-of-pocket would have to be borne by **25** small entities. The FAA has delayed issuing a final rule addressing the phasing out of less noise efficient aircraft in order to consider other actions.

Encourage the use of quiet aircraft - This recommendation would encourage the use of aircraft used in **GCNP** that meet a yet to be **defined** quiet technology standard. As stated in the December **1996** final rule on Special Flight Rules in the Vicinity of Grand Canyon National Park, quieter aircraft technology incentives are viewed as another approach to substantially restore natural quiet to the Grand canyon while maintaining a viable tour industry. Among specific suggestions were providing more attractive routes to quieter aircraft (such as the incentive corridor through the Bright Angel **FFZ**), and lowering fees for those operators using quieter aircraft. All these incentives are still under consideration.

Establishment of aircraft noise budgets - An approach, that the FAA has not yet adopted, but which is under consideration is the noise budget. In this alternative, the FAA would consider letting the market place allow the aircraft owners to determine which airplanes to fly by rationing the amount of noise that any tour operator could emit. Each tour operator would be allotted a specific amount of noise "credits" to be spent over a specific period of time, such as **a day**, week, or month. The amount of noise "credits" issued to each operator would be reduced over time to force each operator to reduce the aircraft noise imposed on the **GCNP**. These credits would be allocated based on a formula that takes into account the number of tours, and the number and type of aircraft that they had in the base year period. Each aircraft type would be assigned a rating based on how noisy it was as compared to a certain decibel level; the noisier the aircraft, the higher its rating. When an operator flew any particular aircraft on its tour, it would use

up this numerical rating against the number of noise credits that it had been allocated. At this time, the FAA and NPS have not yet established noise ratings for each type of aircraft. This could be done when both agencies establish standards for quiet technology aircraft.

Tour operators could increase their number of tours in two basic ways. They could purchase credits from other operators, thus allowing it more tours and/or noisier aircraft. Alternatively, they could invest in quieter aircraft, thus allowing it to fly more tours. Of course, operators could do both, which would certainly increase their number of flights.

A variation on this alternative would be to assign specific routes or specific times of day with positive and negative bonus "points." These points could either add to or subtract from the aircraft's rating as incentive for operators to fly or not to fly certain routes or at certain times of the day. Thus, an operator who chose the "negative points" routes and/or times of the day would be rewarded by being able to fly more tours. On the other hand, since some of the "positive point" routes and/or times of the day might be the more lucrative ones (where and when everyone would want to fly), operators would also be free to try to maximize profits by flying these.

While the FAA has not currently adopted this alternative, the FAA may consider adopting this alternative or elements of this alternative in the future.

Affordability Analysis

For the purpose of this RFA, an affordability analysis is an assessment of the ability of small entities to meet costs imposed by the proposed

rule. There are two types of costs imposed by the rule--1) **out-of-pocket** costs (actual expenditures) associated with applications and documentation and 2) loss of potential future operating revenue associated with an increase in the level of operations above current levels. This latter burden may be significant to financial viability for companies are depending on growth in operating revenue to provide cash needed to meet long-term obligations such as equipment purchase loans.

' A company's short-run financial strength is substantially influenced, among other things, by its liquidity (working capital position and its ability to pay short-term liabilities). Unfortunately, data are not available on the amount of working capital that these operators have to finance changes in short term costs associated with requirements of the rule such as filing of flight plans, transfer of allocations, and requesting modification of initial allocations.

There is an alternative perspective to the assessment of affordability based on working capital of the final rule. The alternative **perspective** pertains to the size of the annualized costs of the rule relative to annual revenues. The lower the relative importance of those costs, the greater the likelihood of implementing either offsetting cost saving efficiencies or raising fares to cover increased costs without substantially decreasing passengers.

This analysis assesses affordability by examining the annualized cost of compliance relative to an estimate of total Grand Canyon commercial air tour operating revenues for each of the **25** small entities." The annualized change in net operating revenues corresponds to foregoing **the**

anticipated 3.3 percent per year growth of undiscounted net operating revenues. This number is relatively constant across all air tour operators because the majority of the negative impact (lost revenues) imposed by this rulemaking is directly related to the number of air tours that are being conducted. For these operators, there may be some prospect of absorbing the cost of the rule through fare increases.

It appears that given the current state of the industry, changes in net operating revenues might be offset by increased air fares. The limit on air tours will restrict the future supply of Grand Canyon air tours while demand for air tours is expected to increase, which might make it easier for affected entities to increase prices. No clear conclusion can be drawn with regard to the abilities of small entities to afford the reductions in net operating revenues that will be imposed by this final rule because the FAA is not able to estimate the amount of revenue increase obtained through price increases.

Disproportionality Analysis

The FAA does not believe any of the 25 entities will be disadvantaged relative to larger operators because within the context of the RFA, all Grand Canyon commercial air tour operators are small regardless of their size relative to one another.

The smallest operators are expected to incur higher costs relative to their size than will larger operators. This is because while all operators have periodic reporting requirements, the smallest operators will not be able to spread their reporting costs across as many operations, and hence, passengers, as will the larger operators.

⁵⁰ Operating revenues were estimated from information on air tour fares, aircraft, and passenger load factors.

Consequently, the periodic reporting requirements will be proportionately greater for the smallest operators compared to the other small operators. However, these reporting costs are a relatively small portion of the economic impact of this rulemaking. As a result, this cost disadvantage to the smaller operators is not expected to be significant.

Competitiveness Analysis

All air tour operators currently operating in **GCNP** are small entities. All these operators will be proportionately impacted by the commercial air tour limitation provision of this rulemaking (the commercial air tour limitation has the greatest impact of all provisions of this rulemaking). The smaller operators will not be put at a disadvantage relative to the larger operators as a result of this provision. There are some paperwork costs that impact each operator equally, regardless of size. In this case the larger operators could have an advantage over the smaller operators since the larger operators can spread these costs among more passengers. However, these particular paperwork costs are small and any relative advantage that the larger operators have as a result of the paperwork cost will be insignificant.

Except for air tours to and from Grand Canyon West Airport, this rulemaking contains one feature impacting competitiveness. The commercial air tour limitation will protect established operators from competition from new entrants or from newly established operators who are just getting set up and therefore provide only a limited number of air tours. In this instance, the commercial air tour limitation puts new entrants and newly established operators at a disadvantage to the established operators because that provision will limit the number of air tours they can provide to only those allocations that they can obtain through transfer.

Business Closure Analysis

The FAA is unable to determine with certainty the extent to which the final rule will cause small entities to close their operations. However, the limited profit and loss data contained in Table 6 and the affordability analysis can be an indicator of business closures.

Table 6 contains 1997 and 1998 calendar year profit and loss for 6 air tour operators. Two of these air tour operators experienced losses in both years.

In determining whether any of the 25 small entities will close business as the result of compliance with this rule, one question must be answered: "Will the cost of compliance be so great as to impair an entity's ability to remain in business?" The FAA has incomplete information on which of these small entities are already in serious financial difficulty and the limited number of **commenters** who supplied information to the docket did not elaborate on this. However, this **rule** can have a significant impact on those small entities that are already experiencing financial difficulty. This rulemaking can make their escape from financial difficulties more difficult, because they will not be able to increase revenues by increasing the number of commercial air tours in the future. To what extent the final rule makes the **difference** in whether these entities remain in business is difficult to answer.

I) Summary of Costs of Compliance

The estimated lo-year impact of the provision of this rulemaking is **\$154.3** million, (**\$99.6** million, discounted) in lost revenue (net of variable operating costs) due to the imposition of air tour operations limits. After two years, this requirement may be reviewed and subject to change. At the end of the two years review, the cost in lost revenue will be **\$13.2** million (**\$11.9** million, discounted). The status of the quiet technology rulemaking and the Comprehensive Aircraft Noise Management Plan will also be taken into consideration at that time. The estimated lo-year cost of the other provisions which include (1) reporting four times annually, (2) filing of flight plans, (3) transfer of allocations and (4) requesting modifications to initial allocations is **\$30,000**, or **\$23,000**, discounted. In sum, the estimated lo-year cost to air tour operators as a result of this final rule would be **\$154.3** million (**\$99.6** million, discounted) with the granting of exceptions to operators conducting air tours to the Reservation.

FAA costs include those associated with initial allocations, annual recording and tracking, transfers of allocations, and filing of flight plans. These FAA costs are estimated at **\$1.06** million or **\$746,400** discounted. In sum, the FAA estimates that the lo-year cost of this rule will be **\$155.4** million (**\$100.3** million, discounted).

J) Summary of Benefits and Costs

Public Law **100-91** was adopted to substantially restore natural quiet and experience in Grand Canyon National Park. The primary intended benefit of this rule is its contribution toward restoring natural quiet and experience in Grand Canyon National Park. The FAA estimates that this rule, together with its two associated actions, will restore natural

quiet to about **41** percent of the park. The estimated lo-year use benefits (benefits derived from hiking, rafting, or sightseeing) as a result of this rule and the associated actions will be about **\$45.9** million, discounted at 7 percent over **10** years. This rule, without the associated actions, will provide a discounted **"use"** benefit to ground visitors of about **\$20.4** million over the same period.

The FAA does not have adequate data to estimate the non-use benefits of aircraft noise reduction at **GCNP**, but believes this rulemaking may generate significant non-use benefits. Studies cited earlier suggest potentially significant non-use benefits associated with aircraft noise reduction in **GCNP** as a result of this rulemaking.

The estimated lo-year cost of these regulations will be **\$155.4** million (**\$100.3** million, discounted). The majority of the costs of these regulations will be **\$154.3** million, (**\$99.6** million, discounted) in lost revenue (net of variable operating costs) due to the imposition of air tour operations limits. After two years, this requirement may be reviewed and subject to change. At the end of the two years review, the cost in lost revenue will be **\$13.2** million (**\$11.9** million, discounted). The status of the quiet technology rulemaking and the Comprehensive Aircraft Noise Management Plan will also be taken into consideration at that time. The estimated lo-year cost of the other provisions to air tour operators includes (1) reporting four times annually, (2) filing of flight plans, (3) transfer of allocations and (4) requesting modifications and initial allocations is **\$30,000**, or **\$23,000**, discounted. FAA costs include those associated with initial allocations, annual recording and tracking, and transfer of allocations and are estimated at **\$1.06** million or **\$746,400** discounted.

6. International Trade Impact Assessment

The FAA has determined that the rulemaking will not affect non-U.S. operators of foreign aircraft operating outside the United States nor will affect U.S. trade. It can, however, have an impact on commercial air tour business at GCNP, much of which is foreign.

The United States Air Tour Association estimates that 60 percent of all commercial air tourists in the United States are foreign nationals. The Las Vegas FSDO and some operators, however, believe this estimate to be considerably higher at the Grand Canyon, perhaps as high as 90 percent. To the extent the air tour limitation rulemaking disrupts the marketing of Grand Canyon air tours to foreign visitors and thereby reduces their patronage of these tour, the commercial air tour industry can potentially experience an additional loss of revenue beyond what is expected as a result of the limit imposed on air tour operators.

The FAA cannot put a dollar value on the portion of the potential loss in commercial air tour revenue associated with a weakening in foreign demand for U.S. services concomitant with the limitation on commercial air tours of the Grand Canyon.

7. Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (the Act), enacted as Public Law 104-4 on March 22, 1995, requires each Federal agency, to the extent permitted by law, to prepare a written assessment of the effects of any Federal mandate in a proposed or final agency rule that may result in the expenditure of \$100 million or more (when adjusted annually for inflation) in any one year by State, local, and tribal

governments in the aggregate, or by the private sector. Section 204(a) of the Act, 2 U.S.C. 1534(a), requires the Federal agency to develop an effective process to permit timely input by elected officers (or their designees) of State, local, and tribal governments on a "significant intergovernmental mandate." A "significant intergovernmental mandate" under the Act is any provision in a Federal agency regulation that will impose an enforceable duty upon State, local, and tribal governments in the aggregate of \$100 million (adjusted annually for inflation) in any one year. Section 203 of the Act, 2 U.S.C. 1533, which supplements section 204(a), provides that, before establishing any regulatory requirements that might significantly or uniquely affect small governments, the agency shall have developed a plan, which, among other things, must provide for notice to potentially affected small governments, if any, and for a meaningful and timely opportunity for these small governments to provide input in the development of regulatory proposals.

This final rule does not contain any Federal intergovernmental or private sector mandates. Therefore, the requirements of Title II of the Unfunded Mandates Reform Act of 1995 do not apply.

APPENDICES

Table A-1 Explanation of Benefits Derivation

Table 1 Summary of Costs by Alternative from 2000-2001 to 2009-2010

Table 2

Table 2a

Table 2b

Table 2c

Table 2d

Table 3

Table 3a

Table 3b

Table 3c

Table 3d

Table 4

Table 4a

Table 4b

Table 4c

Table 4d

Table 5

Table 5a

Table 5b

Table 5c

Table 5d

Table 6

Financial Impact of the Final Rule on Individual Operators

Table 1. Summary of Costs, By Alternative, of the Final Rule of Placing a Limitation on Commercial Air Tours in the Grand Canyon National Park, 2000-2001 to 2009-2010.

Summary of Operational Costs: Final Rule and Alternatives			Summary of Non-Operational Costs: Final Rule and Alternatives			Summary of FAA Costs: Final Rule		
Description of Operations Alternatives	Change in Undiscounted Net Operating Revenue	Change in Discounted Net Operating Revenue	Description of Non-Operations Alternatives with Initial or Annual Costs	Total Undiscounted Cost	Discounted Cost	Description of FAA Costs	Total Undiscounted Cost	Discounted Cost
Total One Year			Total One Year			Total One Year		
Final Rule No Peak/Off-Peak Delineation	\$5,613,067	\$5,245,857	Final Rule Rep. Four Times Ann.	\$1,125	\$1,051	Final Rule Ann .Rec. & Tracking	\$99,280	\$92,785
			Alternative Rep. Three Times Ann. (Current)	\$0	\$0	Final Rule Trans & Term. Of Alloc.	\$6,480	\$6,056
			Final Rule Flight Plan Ann.	\$19,100	\$17,800	Final Rule File Flight Plan	\$0	\$0
			Alternative SFRA Operations Form	\$29,300	\$27,383	Final Rule Initial Allocation	\$3,800	\$3,551
			Final Rule Trans and Term. Of Alloc.	\$1,500	\$1,402			
			Final Rule Req. Mod and Init Alloc.	\$3,800	\$3,551			
Total of Final Rule	\$5,613,067	\$5,245,857	Total of Final Rule	\$28,725	\$26,904	Total Cost	\$109,560	\$102,392
Total Two Years			Total Two Years			Total Two Years		
Final Rule No Peak/Off-Peak Delineation	\$13,221,980	\$11,891,776	Final Rule Rep. Four Times Ann.	\$2,250	\$2,034	Final Rule Ann .Rec. & Tracking	\$198,560	\$179,500
			Alternative Rep. Three Times Ann. (Current)	\$0	\$0	Final Rule Trans & Term. Of Alloc.	\$13,000	\$11,716
			Final Rule Flight Plan Ann.	\$22,300	\$20,900	Final Rule File Flight Plan	\$0	\$0
			Alternative SFRA Operations Form	\$58,600	\$52,975	Final Rule Initial Allocation	\$3,800	\$3,551
			Final Rule Trans and Term. Of Alloc.	\$3,000	\$2,712			
Total of Final Rule	\$13,221,980	\$11,891,776	Total of Final Rule	\$27,550	\$25,640	Total Cost	\$215,360	\$194,767

Table 1. Summary of Costs, By Alternative, of the Final Rule of Placing a Limitation on Commercial Air Tours in the Grand Canyon National Park, 2000-2001 to 2009-2010 (continued).

Summary of Operational Costs: Final Rule and Alternatives			Summary of Non-Operational Costs: Final Rule and Alternatives			Summary of FAA Costs: Final Rule		
Description of Operations Alternatives	Change in Undiscounted Net Operating Revenue	Change in Discounted Net Operating Revenue	Description of Non-Operations Alternatives With Initial or Annual Costs	Total Undiscounted Cost	Discounted Cost	Description of FAA Costs	Total Undiscounted Cost	Discounted Cost
Total Five Years			Total Five Years			Total Five Years		
Final Rule No Peak/Off-Peak Delineation	\$48,693,362	\$38,770,414	Final Rule Rep. Four Times Ann.	\$5,625	\$4,613	Final Rule Ann .Rec. & Tracking	\$496,400	\$407,061
			Alternative Rep. Three Times Ann. (Current)	\$0	\$0	Final Rule Trans & Term. Of Alloc.	\$32,400	\$26,561
			Final Rule Flight Plan Ann.	\$22,300	\$20,900	Final Rule File Flight Plan	\$0	\$0
			Alternative SFRA Operations Form	\$146,500	\$120,136	Final Rule Initial Allocation	\$3,800	\$3,551
			Final Rule Trans and Term. Of Alloc.	\$7,500	\$6,150			
Total of Final Rule	\$48,693,362	\$38,770,414	Total of Final Rule	\$35,425	\$36,276	Total Cost	\$532,600	\$437,181
Total Ten Years			Total Ten Years			Total Ten Years		
Final Rule No Peak/Off-Peak Delineation	\$154,322,296	\$99,566,311	Final Rule Rep. Four Times Ann.	\$11,250	\$7,902	Final Rule Ann .Rec. & Tracking	\$992,800	\$697,301
			Alternative Rep. Three Times Ann. (Current)	\$0	\$0	Final Rule Trans & Term. Of Alloc.	\$64,800	\$45,511
			Final Rule Flight Plan Ann.	\$22,300	\$20,900	Final Rule File Flight Plan	\$0	\$0
			Alternative SFRA Operations Form	\$293,000	\$205,791	Final Rule Initial Allocation	\$3,800	\$3,551
			Final Rule Trans and Term. Of Alloc.	\$15,000	\$10,535			
			Final Rule Req. Mod and Init Alloc.	\$3,800	\$3,551			
Total of Final Rule	\$154,322,296	\$99,556,311	Total of Final Rule	\$52,350	\$42,888	Total Cost	\$1,061,400	\$746,361

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999

Table 2. Profile Of Operators, By Route And Other Variables, Who Were Operating In Grand Canyon National Park, 1997-1998.

Route	Number of Operators*	Aircraft**	Air Tours Total	Passengers
Fixed Wing (Blue Routes)	10	150	38,114	363,434
Helicopter (Green 4 Route)	4	16	7,922	38,338
Fixed Wing (Black Routes)	9	74	11,426	94,286
Helicopter (Green 1, 1A, and 2 Routes)	3	31	32,797	145,797
Total One-Year All Routes	26	**	90,259	641,855
Fixed Wing (Blue Routes)	10	150	85,412	814,450
Helicopter (Green 4 Route)	4	16	17,753	85,915
Fixed Wing (Black Routes)	9	75	25,605	211,294
Helicopter (Green 1, 1A, and 2 Routes)	3	31	73,497	326,728
Total Two-Year All Routes	26	**	202,267	1,438,387
Fixed Wing (Blue Routes)	10	150	224,392	2,139,711
Helicopter (Green 4 Route)	4	16	46,641	225,715
Fixed Wing (Black Routes)	9	75	67,270	555,110
Helicopter (Green 1, 1A, and 2 Routes)	3	31	193,092	858,375
Total Five-Year All Routes	26	**	531,395	3,778,911
Fixed Wing (Blue Routes)	10	150	488,335	4,656,558
Helicopter (Green 4 Route)	4	16	101,502	491,214
Fixed Wing (Black Routes)	9	75	146,397	1,208,061
Helicopter (Green 1, 1A, and 2 Routes)	3	31	420,217	1,868,044
Total Ten-Year All Routes	26	**	1,156,451	8,223,877

* Twenty-four operators reported conducting air tours in the Grand Canyon during the base period. The number sums to 26 entities because one operator is an airplane and helicopter operator and is counted as two entities in this table. Another operator conducts a large volume of airplane tours that originate from Page, Arizona as well as from Las Vegas, Nevada. This operator is also treated as two entities in this table.

** To avoid double counting, no totals are provided because many operators use the same aircraft on more than one type of air tour.

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 2a. Profile Of Las Vegas Airplane Operators Conducting Air Tours Along National Canyon and Sanup Region Blue Routes In Grand Canyon National Park, 1997-1998.

Operator Code Number*	Aircraft	Air Tours Annual Total	Passengers
2	22	5,582	28,738
3	7	3,390	21,394
6	4	2,010	16,080
7	11	2,314	18,743
10	42	7,437	124,910
11	15	5,927	66,160
14	1	2	8
15	13	3,971	33,781
19	18	5,557	39,594
23	17	1,924	14,025
Total	150	38,114	363,433

* A unique code has been assigned to each operator.

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 2b. Profile Of Las Vegas Helicopter Operators Conducting Air Tours Along Sanup Region Green 4 Route and on The Reservation Who Were Operating In Grand Canyon National Park, 1997-1998.

Operator Code Number*	Aircraft	Air Tours Annual Total	Passengers
18	3	1,026	4,197
20	3	2,556	12,780
22	3	1,753	7,889
24	7	2,587	13,472
Total	16	7,922	38,338

* A unique code has been assigned to each operator.

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 2c. Profile Of Tusayan and Other Airplane Operators Conducting Air Tours in Marble Canyon and through Zuni Point, North Rim, Dragon, and Fossil Canyon Corridors, Who Were Operating In Grand Canyon National Park, 1997-1998.

Operator Code Number*	Aircraft	Air Tours Annual Total	Passengers
1	13	926	3,327
5	1	34	136
8	4	3,165	48,108
9	2	36	149
10	42	3,030	21,221
12	1	1,075	5,536
13	2	13	34
16	8	3,132	15,715
17	1	15	60
Total	74	11,426	94,286

* A unique code has been assigned to each operator.

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 2d. Profile Of Tusayan Helicopter Operators Conducting Air Tours Through Zuni Point North Rim and Dragon Corridors (Green Routes) Who Were Operating In the Grand Canyon National Park, 1997-1998.

Operator Code Number*	Aircraft	Air Tours Annual Total	Passengers
4	4	4,361	23,113
21	22	24,015	101,976
25	5	4,421	20,708
Total	31	32,797	145,797

* A unique code has been assigned to each operator.

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 3. One-Year, Two-Year, Five-Year, and Ten-Year Profile Of Operators, By Route, Revenue, and Costs, 2000-2001 to 2009-2010, Without the Final Rule (Based Upon 1997-1998 Base Year).

Route	Operator	Gross Operating Revenue	Variable Operating costs	Net Operating Revenue	Discounted Net Operating Revenue
Fixed Wing (Blue routes)	10	\$70,172,071	\$17,298,942	\$52,873,129	\$49,414,154
helicopter (Green 4 route)	4	\$13,248,839	\$1,505,482	\$11,743,357	\$10,975,100
Fixed Wing (Black routes)	9	\$8,619,217	\$2,954,490	\$5,664,727	\$5,294,138
helicopter (Green 1, 1A, and 2 Routes)	3	\$17,373,721	\$10,376,806	\$6,996,915	\$6,539,173
Total One-Year All routes	26	\$109,413,848	\$32,135,720	\$77,278,128	\$72,255,210
Fixed Wing (Blue routes)	10	\$142,659,821	\$35,168,748	\$107,491,072	\$97,119,594
helicopter (Green 4 route)	4	\$27,008,078	\$3,060,645	\$23,947,433	\$21,635,814
Fixed Wing (Black routes)	9	\$17,522,869	\$6,006,478	\$11,516,391	\$10,405,207
helicopter (Green 1, 1A, and 2 Routes)	3	\$35,320,775	\$21,096,046	\$14,224,729	\$12,852,226
Total Two-Years All routes	26	\$222,511,543	\$65,331,918	\$157,179,625	\$142,013,841
Fixed Wing (Blue routes)	10	\$374,794,006	\$92,394,876	\$282,399,130	\$230,564,351
helicopter (Green 4 route)	4	\$70,955,268	\$8,040,887	\$62,914,381	\$51,365,338
Fixed Wing (Black routes)	9	\$46,035,851	\$15,780,140	\$30,255,711	\$24,702,223
helicopter (Green 1, 1A, and 2 Routes)	3	\$92,794,276	\$55,423,254	\$37,371,022	\$30,511,507
Total Five-Years All Routes	26	\$584,579,401	\$171,639,157	\$412,940,244	\$337,144,419
Fixed Wing (Blue Routes)	10	\$815,647,457	\$201,074,842	\$614,572,615	\$423,923,020
helicopter (Green 4 Route)	4	\$154,416,782	\$17,499,024	\$136,917,758	\$94,444,913
Fixed Wing (Black Routes)	9	\$100,185,767	\$34,341,615	\$65,844,152	\$45,413,836
helicopter (Green 1, 1A, and 2 Routes)	3	\$201,944,038	\$120,615,152	\$81,328,886	\$56,110,097
Total Ten-Years All Routes	26	\$1,272,194,044	\$373,530,633	\$898,663,411	\$619,891,866

Source: U.S. Department of Transportation, Federal Aviation Administration Office of Aviation Policy and Plans, November 1999.

Table 3a. Ten-Year Profile of Las Vegas Airplane Operators Conducting Air Tours Along National Canyon and Sanup Region Blue Routes By Revenue, and Costs, 2000-2001 to 2009-2010, Without the Final Rule (Based Upon 1997-1998 Base Year)

Operator Code Number*	Gross Operating Revenue	Variable Operating Costs	Undiscounted Net Operating Revenue	Discounted Net Operating Revenue
2	\$31,905,322	\$12,596,049	\$19,309,273	\$13,319,402
3	\$29,954,853	\$11,190,678	\$18,764,175	\$12,943,397
6	\$38,465,186	\$10,657,056	\$27,808,130	\$19,181,854
7	\$42,285,321	\$11,059,680	\$31,225,641	\$21,539,229
10	\$298,240,508	\$63,083,392	\$235,157,116	\$162,209,735
11	\$171,781,320	\$42,290,932	\$129,490,388	\$89,321,565
14	\$9,477	\$4,640	\$4,837	\$3,336
15	\$78,254,749	\$19,579,174	\$58,675,575	\$40,474,001
19	\$95,759,901	\$24,526,481	\$71,233,420	\$49,136,315
23	\$28,991,174	\$6,086,934	\$22,904,240	\$15,799,185
Total	\$815,647,811	\$201,075,015	\$614,572,796	\$423,928,020

* A unique code has been assigned to each operator.

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 3b. Ten-Year Profile Las Vegas Helicopter Operators Conducting Air Tours Along Sanup Region Green 4 Route and on The Reservation, By Revenue, and Costs, 2000-2001 to 2009-2010, Without The Final Rule (Based Upon 1997-1998 Base Year)

Operator Code Number*	Gross Operating Revenue	Variable Operating costs	Undiscounted Net Operating Revenue	Discounted Net Operating Revenue
18	\$13,911,009	\$3,976,843	\$9,934,166	\$6,852,518
20	\$51,100,426	\$4,475,348	\$46,625,078	\$32,161,653
22	\$33,023,791	\$4,112,908	\$28,910,884	\$19,942,525
24	\$56,381,555	\$4,933,925	\$51,447,629	\$35,488,215
Total	\$154,416,781	\$17,499,024	\$136,917,757	\$94,444,913

• A unique code has been assigned to each operator.

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 3c. Ten-Year Profile Of **Tusayan** and Other Airplane Operators Conducting Air Tours in **Marble Canyon** and through **Zuni Point**, North Rim, Dragon, and Fossil Canyon Corridors, By Revenue and Costs, 2000-2001 to 2009-2010, Without the Final Rule (Based Upon 1997-1998 Base Year)

Operator Code Number*	Gross Operating Revenue	Variable Operating Costs	Undiscounted Net Operating Revenue	Discounted Net Operating Revenue
1	\$3,542,799	\$1,479,855	\$2,062,944	\$1,423,004
5	\$144,814	\$54,781	\$90,033	\$62,104
8	\$48,120,294	\$20,707,981	\$27,412,313	\$18,908,822
9	\$231,756	\$89,825	\$141,931	\$97,903
10	\$24,374,660	\$4,414,147	\$19,960,513	\$13,768,622
12	\$5,158,165	\$1,744,158	\$3,414,007	\$2,354,958
13	\$34,340	\$7,896	\$26,444	\$18,241
16	\$18,423,212	\$5,790,892	\$12,632,320	\$8,713,686
17	\$155,728	\$52,079	\$103,649	\$71,497
Total	\$100,185,768	\$34,341,614	\$65,844,154	\$45,418,836

* A unique code has been assigned to each operator.
 Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 3d. Ten-Year Profile of **Tusayan** Helicopter Operators Conducting Air Tours Through **Zuni Point**, North Rim and Dragon Corridors (Green Routes), By Revenue and Costs, 2000-2001 to 2009-2010, Without the Final Rule (Based Upon 1997-1998 Base Year)

Operator Code Number*	Gross Operating Revenue	Variable Operating costs	Undiscounted Net Operating Revenue	Discounted Net Operating Revenue
4	\$32,595,712	\$19,640,825	\$12,954,887	\$8,936,190
21	\$143,351,426	\$87,529,922	\$55,821,504	\$38,505,281
25	\$25,996,900	\$13,444,405	\$12,552,495	\$8,658,621
Total	\$201,944,038	\$120,615,152	\$81,328,886	\$56,100,092

* A unique code has been assigned to each operator.
 Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 4. One-Year, Two-Year, Five-Year, and Ten-Year Profile of Operators Under the Final Rule, By Route, Revenue, and Costs Who Were Operating In the Grand Canyon National Park, 2000-2001 to 2009-2010 (Based Upon 1997-1998 Base Year)

Route	Number of Operators	Loss in Total Operations	Loss of Gross Operating Revenue	Reduction in Variable Operating costs	Loss of Undiscounted Net Operating Revenue	Loss of Discounted Net Operating Revenue
Fixed Wing (Blue Routes)	10	2,783	\$5,737,970	\$1,379,329	\$4,358,641	\$4,073,496
Helicopter (Green 4 Route)	1	105	\$111,073	\$31,753	\$79,230	\$74,130
Fixed Wing (Black Routes)	9	1,169	\$799,936	\$274,201	\$525,735	\$491,340
Helicopter (Green 1, 1A, and 2 Routes)	3	3,355	\$1,612,427	\$963,054	\$649,373	\$606,890
Total One-Year All Routes	23	7,412	\$8,261,405	\$2,648,338	\$5,613,067	\$5,245,857
Fixed Wing (Blue Routes)	10	6,556	\$13,516,199	\$3,249,109	\$10,267,090	\$9,234,164
Helicopter (Green 4 Route)	1	247	\$261,640	\$74,797	\$186,843	\$168,045
Fixed Wing (Black Routes)	9	2,753	\$1,884,305	\$645,901	\$1,238,404	\$1,113,814
Helicopter (Green 1, 1A, and 2 Routes)	3	7,903	\$3,798,186	\$2,268,543	1,529,643	\$1,375,752
Total Two-Years All Routes	23	17,460	\$19,460,330	\$6,238,350	\$13,221,980	\$11,891,776
Fixed Wing (Blue Routes)	10	24,143	\$49,776,899	\$11,965,685	\$37,811,214	\$30,105,879
Helicopter (Green 4 Route)	1	911	\$963,556	\$275,459	\$688,097	\$547,874
Fixed Wing (Black Routes)	9	10,140	\$6,939,442	\$2,378,697	\$4,560,745	\$3,631,336
Helicopter (Green 1, 1A, and 2 Routes)	3	29,107	\$13,987,804	\$8,354,498	\$5,633,306	\$4,485,326
Total Five-Years All Routes	23	64,300	\$71,667,701	\$22,974,339	\$48,693,362	\$38,770,414
Fixed Wing (Blue Routes)	10	76,514	\$157,756,317	\$37,922,458	\$119,833,859	\$77,307,150
Helicopter (Green 4 Route)	1	2,886	\$3,053,768	\$873,003	\$2,180,765	\$1,406,854
Fixed Wing (Black Routes)	9	32,137	\$21,992,948	\$7,538,729	\$14,454,219	\$9,324,697
Helicopter (Green 1, 1A, and 2 Routes)	3	92,247	\$44,331,094	\$26,477,640	\$17,853,454	\$11,517,610
Total Ten-Years All Routes	23	203,784	\$227,134,127	\$72,881,831	\$154,322,296	\$99,556,311

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 4a. Ten-Year Profile Of Las Vegas Airplane Operators Conducting Air Tours Along National Canyon and Sanup Region Blue Routes Under the Final Rule, By Revenue and Costs, 2000-2001 to 2009-2010 (Based Upon 1997-1998 Base Year)

Operator Code Number*	Change in Total Operations	Change in Gross Operating Revenue	Change in Variable Operating Costs	Change in Undiscounted Net Operating Revenue	Change in Discounted Net Operating Revenue
2	70	\$611,123	\$171,353	\$439,769	\$283,703
3	4,441	\$4,374,787	\$1,502,235	\$2,872,552	\$1,853,133
6	4,593	\$7,571,522	\$2,099,773	\$5,471,749	\$3,529,933
7	5,682	\$8,663,273	\$2,249,565	\$6,413,708	\$4,137,603
10	16,326	\$56,298,937	\$12,261,053	\$44,037,883	\$28,409,693
11	16,201	\$37,379,211	\$9,196,639	\$28,200,574	\$18,192,733
14	6	\$2,003	\$1,019	\$1,062	\$683
15	11,169	\$17,178,614	\$4,298,053	\$12,880,561	\$8,309,503
19	15,025	\$20,679,117	\$5,283,116	\$15,396,001	\$9,932,253
23	3,001	\$4,979,654	\$859,654	\$4,120,000	\$2,657,893
Total	76,514	\$157,756,317	\$37,922,458	\$119,833,859	\$77,307,153

* A unique code has been assigned to each operator.

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 4b. Ten-Year Profile Of Las Vegas Helicopter Operators Conducting Air Tours Along Sanup Region Green 4 Route and on The Reservation of Operators Under the Final Rule, By Revenue and Costs, 2000-2001 to 2009-2010 (Based Upon 1997-1998 Base Year)

Operator Code Number*	Change in Annual Operations	Change in Gross Operating Revenue	Change in Variable Operating costs	Change in Undiscounted Net Operating Revenue	Change in Discounted Net Operating Revenue
18	2,886	\$3,053,768	\$873,003	\$2,180,765	\$1,406,853
20	0	\$0	\$0	\$0	\$0
22	0	\$0	\$0	\$0	\$0
24	0	\$0	\$0	\$0	\$0
Total	2,886	\$3,053,768	\$873,003	\$2,180,765	\$1,406,853

* A unique code has been assigned to each operator.

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 4c. Ten-Year Profile Of 'Tusayan and Other Airplane Operators Conducting Air Tours in Marble Canyon and through Zuni Point, North Rim, Dragon, and Fossil Canyon Corridors Operators Under the Final Rule, By Revenue and Costs, 2000-2001 to 2009-2010 (Based Upon 1997-1998 Base Year)

Operator Code Number*	Change in Annual Operations	Change in Gross Operating Revenue	Change in Variable Operating Costs	Change in Undiscounted Net Operating Revenue	Change in Discounted Net Operating Revenue
1	2,605	\$777,721	\$324,860	\$452,861	\$292,149
5	96	\$31,790	\$12,026	\$19,764	\$12,750
8	8,902	\$10,563,448	\$4,545,851	\$6,017,597	\$3,882,069
9	101	\$50,875	\$19,719	\$31,156	\$20,100
10	8,522	\$5,350,766	\$969,001	\$4,381,765	\$2,826,762
12	3,024	\$1,132,329	\$382,881	\$749,448	\$483,484
13	37	\$7,538	\$1,733	\$5,805	\$3,745
16	8,809	\$4,044,294	\$1,271,226	\$2,773,068	\$1,788,960
17	42	\$34,186	\$11,432	\$22,754	\$14,679
Total	32,138	\$21,992,947	\$7,538,729	\$14,454,218	\$9,324,698

* A unique code has been assigned to each operator.

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 4d. Ten-Year Profile Of 'Tusayan Helicopter Operators Conducting Air Tours Through Zuni Point, North Rim and Dragon Corridors (Green Routes) Operators Under the Final Rule, By Revenue and Costs In the Grand Canyon National Park, 2000-2001 to 2009-2010 (Based Upon 1997-1998 Base Year)

Operator Code Number*	Change in Annual Operations	Change in Gross Operating Revenue	Change in Variable Operating costs	Change in Undiscounted Net Operating Revenue	Change in Discounted Net Operating Revenue
4	12,266	\$7,155,465	\$4,311,587	\$2,843,878	\$1,834,641
21	67,546	\$31,468,746	\$19,214,715	\$12,254,031	\$7,905,313
25	12,435	\$5,706,883	\$2,951,338	\$2,755,545	\$1,777,656
Total	92,247	\$44,331,094	\$26,477,640	\$17,853,454	\$11,517,610

* A unique code has been assigned to each operator.

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Estimated Initial Operator Start-up Costs Associated With Filing a Flight Plan (2000-2001)						
Operator Number	a) Cost to Create a Template	b) Rewrite Existing Ops Manual	c) Pilot Training Setup	d) Initial Pilot Training	Total	Discounted Total
1	\$360	\$360	\$360	\$0	\$1,080	\$1,009
2	\$360	\$360	\$360	\$0	\$1,080	\$1,009
3	\$360	\$360	\$360	\$0	\$1,080	\$1,009
5	\$0	\$360	\$0	\$0	\$360	\$336
6	\$360	\$360	\$360	\$0	\$1,080	\$1,009
7	\$360	\$360	\$360	\$0	\$1,080	\$1,009
8	\$360	\$360	\$360	\$0	\$1,080	\$1,009
9	\$0	\$360	\$0	\$0	\$360	\$336
10	\$360	\$360	\$360	\$0	\$1,080	\$1,009
11	\$360	\$360	\$360	\$0	\$1,080	\$1,009
12	\$360	\$360	\$360	\$0	\$1,080	\$1,009
13	\$0	\$360	\$0	\$0	\$360	\$336
14	\$0	\$360	\$0	\$0	\$360	\$336
15	\$360	\$360	\$360	\$0	\$1,080	\$1,009
16	\$360	\$360	\$360	\$0	\$1,080	\$1,009
17	\$0	\$360	\$0	\$0	\$360	\$336
18	\$360	\$360	\$360	\$0	\$1,080	\$1,009
19	\$360	\$360	\$360	\$0	\$1,080	\$1,009
20	\$0	\$0	\$0	\$0	\$0	\$0
21	\$360	\$360	\$360	\$0	\$1,080	\$1,009
22	\$0	\$0	\$0	\$0	\$0	\$0
23	\$360	\$360	\$360	\$0	\$1,080	\$1,009
24	\$0	\$0	\$0	\$0	\$0	\$0
25	\$360	\$360	\$360	\$0	\$1,080	\$1,009
Total	\$5,760	\$7,560	\$5,760	\$0	\$19,080	\$17,823

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 5. One-Year, Two-Year, Five-Year, and Ten-Year Regulatory Flexibility Profile Of Operators Under Alternative One, Who Were Operating In the Grand Canyon National Park, 2000-2001 to 2009-2010 (Based Upon 1997-1998 Base Year)

Route	Number Of Operators	Change in Total Operations	Change in Undiscounted Net Operating Revenue	Annualized Change in Net Operating Revenue	Change in Undiscounted Other Costs	Annualized Change in Undiscounted Other Costs
Fixed Wing (Blue Routes)	10	2,783	\$4,358,641	\$4,358,641	\$2,928	\$2,928
Helicopter (Green 4 Route)	1	105	\$79,230	\$79,230	\$1,093	\$1,093
Fixed Wing (Black Routes)	9	1,169	\$525,734	\$525,734	\$2,651	\$2,651
Helicopter (Green 1, 1A, and 2 Routes)	3	3,355	\$649,732	\$649,732	\$818	\$818
Total One-Year All Routes	23	7,412	\$5,613,067	\$5,613,067	\$7,490	\$7,490
Fixed Wing (Blue Routes)	10	6,556	\$10,267,090	\$5,678,645	\$5,856	\$3,239
Helicopter (Green 4 Route)	1	247	\$186,843	\$103,341	\$2,186	\$1,209
Fixed Wing (Black Routes)	9	2,753	\$1,238,404	\$684,951	\$5,303	\$2,933
Helicopter (Green 1, 1A, and 2 Routes)	3	7,903	\$1,529,643	\$846,033	\$1,636	\$905
Total Two-Years All Routes	23	17,460	\$13,221,980	\$7,312,970	\$14,981	\$8,286
Fixed Wing (Blue Routes)	10	24,143	\$37,811,214	\$9,221,815	\$14,639	\$3,570
Helicopter (Green 4 Route)	1	911	\$688,097	\$167,821	\$5,464	\$1,333
Fixed Wing (Black Routes)	9	10,140	\$4,560,744	\$1,112,324	\$13,257	\$3,233
Helicopter (Green 1, 1A, and 2 Routes)	3	29,107	\$5,633,306	\$1,373,913	\$4,089	\$997
Total Five-Years All Routes	23	64,300	\$48,693,362	\$11,875,873	\$37,449	\$9,133
Fixed Wing (Blue Routes)	10	76,514	\$119,833,859	\$17,061,705	\$29,278	\$4,168
Helicopter (Green 4 Route)	1	2,886	\$2,180,765	\$310,493	\$10,928	\$1,556
Fixed Wing (Black Routes)	9	32,137	\$14,454,219	\$2,057,963	\$26,515	\$3,775
Helicopter (Green 1, 1A, and 2 Routes)	3	92,247	\$17,853,454	\$2,541,939	\$8,178	\$1,164
Total Ten-Years All Routes	23	203,784	\$154,322,296	\$21,972,100	\$74,899	\$10,663

* **Twenty-four operators offer** commercial air tours in GCNP. The number sums to 26 **entities** because one operator is both an airplane and a helicopter operator and is counted twice. Another operator is an airplane operator maintaining two bases of operations (cost centers) by conducting a large volume of commercial air tours originating from both Las Vegas, Nevada and Page, Arizona. This operator is also counted twice.

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 5a. Ten-Year Regulatory Flexibility Profile Of Las Vegas Airplane Operators Conducting Air Tours Along National Canyon and Sanup Region Blue Routes, 2000-2001 to 2009-2010 (Based Upon 1997-1998 Base Year)

Operator Code Number	Change in Total Operations	Change in Undiscounted Net Operating Revenue	Annualized Change in Net Operating Revenue	Change in Undiscounted Other Costs	Annualized Change in Undiscounted Other Costs
2	70	\$439,769	\$62,613	\$3,320	\$473
3	4,441	\$2,872,552	\$408,988	\$3,500	\$498
6	4,593	\$5,471,749	\$779,057	\$3,200	\$456
7	5,682	\$6,413,708	\$913,171	\$1,373	\$195
10	16,326	\$44,037,883	\$6,270,026	\$3,140	\$447
11	16,201	\$28,200,574	\$4,015,141	\$3,330	\$531
14	6	\$1,062	\$151	\$3,140	\$447
15	11,169	\$12,880,561	\$1,833,909	\$1,395	\$199
19	15,025	\$15,396,001	\$2,192,052	\$3,160	\$450
23	3,001	\$4,120,000	\$586,597	\$3,320	\$473
Total	76,514	\$134,912,051	\$17,061,705	\$28,878	\$4,169

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 5b. Ten-Year Regulatory Flexibility Profile Of Las Vegas Helicopter Operators Conducting Air Tours Along Sanup Region Green 4 Route and on The Reservation, 2000-2001 to 2009-2010 (Based Upon 1997-1998 Base Year)

Operator Code Number	Change in Annual Operations	Change in Undiscounted Net Operating Revenue	Annualized Change in Net Operating Revenue	Change in Undiscounted Other Costs	Annualized Change in Undiscounted Other Costs
18	2,886	\$2,180,765	\$310,493	\$4,350	\$619
22	0	\$0	\$0	\$3,810	\$542
20	0	\$0	\$0	\$1,395	\$199
24	0	\$0	\$0	\$1,370	\$195
Total	2,886	\$2,180,765	\$310,493	\$10,925	\$1,555

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 5c. Ten-Year Regulatory Flexibility Profile Of Tusayan and Other Airplane Operators Conducting Air Tours in Marble Canyon and through Zuni, North Rim, Dragon, and Fossil Canyon Corridors Under Alternative One, 2000-2001 to 2009-2010 (Based Upon 1997-1998 Base Year)

Operator Number	Change in Annual Operations	Change in Undiscounted Net Operating Revenue	Annualized Change in Net Operating Revenue	Change in Undiscounted Other Costs	Annualized Change in Undiscounted Other Costs
1	2,605	\$452,861	\$64,477	\$3,220	\$458
5	96	\$19,764	\$2,814	\$635	\$90
8	8,902	\$6,017,597	\$856,773	\$3,120	\$444
9	101	\$31,157	\$4,436	\$3,500	\$498
10	8,522	\$4,381,765	\$623,867	\$3,120	\$444
12	3,024	\$749,449	\$106,705	\$3,400	\$484
13	37	\$5,805	\$827	\$3,160	\$450
16	8,809	\$2,773,068	\$394,824	\$3,200	\$456
17	42	\$22,753	\$3,240	\$3,160	\$450
Total	32,138	\$14,454,219	\$2,057,963	\$26,515	\$3,776

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 5d. Ten-Year Regulatory Flexibility Profile Of Tusayan Helicopter Operators Conducting Air Tours Through Zuni, North Rim and Dragon Corridors (Green Routes) Under Alternative One, In the Grand Canyon National Park, 2000-2001 to 2009-2010 (Based Upon 1997-1998 Base Year,)

Operator Number	Change in Annual Operations	Change in Undiscounted Net Operating Revenue	Annualized Change in Net Operating Revenue	Change in Undiscounted Other Costs	Annualized Change in Undiscounted Other Costs
4	12,266	\$2,843,878	\$404,906	\$1,188	\$169
21	66,742	\$12,254,030	\$1,744,704	\$3,870	\$551
25	12,435	\$2,775,545	\$392,329	\$3,120	\$444
Total	91,443	\$12,873,453	\$2,541,939	\$8,178	\$1,164

Source: U.S. Department of Transportation, Federal Aviation Administration, Office of Aviation Policy and Plans, November 1999.

Table 6		
Financial Data for Some Carriers Impacted by the Final Rule		
OPS REV	CY 1997	CY 1998
6	\$2,175,087	\$1,213,402
7	\$4,560,593	\$699,147
10	\$31,776,607	\$23,434,825
11	\$9,355,910	\$6,584,310
19	\$12,982,744	\$13,707,166
21	\$12,345,599	\$11,800,103
TOTAL	\$73,196,540	\$57,438,953
OPS EXP	CY 1997	CY 1998
6	\$1,876,019	\$900,671
7	\$4,527,750	\$1,099,609
10	\$29,726,391	\$21,456,014
11	\$8,775,607	\$7,165,878
19	\$11,171,050	\$13,011,611
21	\$11,935,397	\$11,083,630
TOTAL	\$68,012,214	\$54,717,413
OPS PROFIT/LOSS	CY 1997	CY 1998
6	\$299,068	\$312,731
7	\$32,843	(\$400,462)
10	\$2,050,216	\$1,978,811
11	\$580,303	(\$581,568)
19	\$1,811,694	\$695,555
21	\$410,202	\$716,473
TOTAL	\$5,184,326	\$2,721,540
NET PROFIT/LOSS	CY 1997	CY 1998
6	\$299,070	\$303,730
7	\$61,704	(\$370,581)
10	(\$93,704)	(\$1,201,019)
11	(\$849,540)	(\$1,927,921)
19	\$2,179,183	\$1,505,456
21	\$392,202	\$716,473
TOTAL	\$1,988,915	(\$973,862)
PAX REV	CY 1997	CY 1998
6	\$915,884	\$492,089
7	\$4,508,918	\$337,078
10	\$10,225,986	\$383,434
11	\$4,356,950	\$2,603,525
19	\$12,510,705	\$13,381,799
21	\$244,167	\$221,823
TOTAL	\$32,762,610	\$17,419,748

Source: U.S. Department of Transportation/Bureau of
Transportation Statistics, Form 298C, Schedule F1, November 1999

Financial Impact of the Final Rule on Individual Operators

This section has been developed because several small operators provided useful economic information to the FAA docket on their financial well-being. The two air tour operators who provided some of the most useful information were Air Vegas Airlines and Grand Canyon Airlines. This information is being used to gain a better picture of the financial impact of these affected operators.

Air Vegas Airlines

This air tour operator, according to its submission to the FAA, employs about 100 people and by the end of 1999 will **enplane** approximately 180,000 individuals. This operator claims that it will conduct **between 8,000 and 8,500** sightseeing flights in 1999 compared to almost 13,000 in 1996 in smaller aircraft. The aircraft that they currently use represent an investment of over **\$12 million**.⁵¹ For 1999, this operator states it will have about an eight percent operating revenue margin based on gross revenues of approximately **\$9.8 million**. According to the operator's information, the average revenue per passenger in 1999 alone would be about **\$120** per passenger.

The same operator has been providing information to the FAA as required under **§93.317**. The following table is a summary of those results and shows that for the 1997-1998 season, this operator conducted **5,927** air tours. For the 1998-1999 season, **5,241** air tours were conducted. As stated previously, this operator said that for 1999, it was going to conduct between **8,000 and 8,500** air tours.

Number of Air Tours Reported to the FAA by Air Vegas Airlines (adjusted)			
Period and Year	Number of Air Tours	Period and Year	Number of Air Tours
May-August 1997	2,540	May-August 1998	2,246
September-December 1997	2,114	September-December 1998	1,870
January - April 1998	1,273	January - April 1999	1,125
Total	5,927	Total	5,241

The FAA realizes that 1999 may be a better year than the previous two years, but the FAA questions whether this estimate is over optimistic. Since 1,125 tours have already been conducted between January and April 1999, another 6,875 air tours would have to be conducted in the last eight months of 1999 to meet his goal. If 2,235 tours will be conducted between September and December 1999 (10 percent more than Sept-Dec 1997) then 4,640 (8,000 - 1,125 - 2,235) air tours would have to be conducted between May and August 1999. The FAA believes that this estimate of 4,640 is highly unlikely based upon knowledge of past operations and the number of aircraft in his fleet. Data in the period May - August 1999 was in the process of being submitted to the FAA at the time this rule was finalized.

As stated previously, this operator uses about 10 BE-99-C99 with 15 passenger seats each. If every day 10 percent of his fleet is down for maintenance, then this operator could use no more than nine aircraft per day. Given that there are 123 days in the second trimester between May and August, if he was to fly 4,640 air tours during this time period, then each airplane would have to make 4.19 air tours each day. However as the Grand Canyon Air Tour Council stated in their submission to the FAA, there were 45 no flight days due to weather in 1997-1998. If, in

⁵¹ The operator's fleet is comprised of 10 BE-99-C99 with 15 passenger seats, 2 BE-56 with 5 passenger seats, and 3 CE-402 with 9 passenger seats).

1999 there were 15 no flight days in the second trimester, then this operator could only fly a maximum of 108 days in the second trimester. Recalculating the number of air tours that would have to be conducted each day means that each airplane would have to make 4.77 air tours each day.⁵² If each round trip air tour was two hours, then it is technically possible that this air tour operator could meet his goal of 8,000 air tours in 1999. However, the FAA is unaware of any air tour operator who, except for a day or two, ever operated at peak capacity, continuously throughout the year.

The information that this operator submitted to the FAA for the past two years under §93.317, as well as what the forecast for 1999-2000, suggests that while 1999-2000 may be a better year than the past two years, this operator's claim of profitability (or lack of) may be somewhat high. However, this operator has been flying fewer flights with more passenger seats as detailed in his submission over the past several years without this rule in effect - the FAA does not foresee a change in the trend. It may even be possible that should demand increase as forecasted, that this operator's load factor of 73 percent or 11 passengers per flight may actually increase resulting in greater net operating revenue than what has been indicated. Nevertheless, the FAA believes that all small operators, including Air Vegas Airlines will incur a substantial impact. However, the current allocation of about 5,900 air tours will not significantly curtail his existing activity. With that in mind, it is difficult for the FAA to determine the operator's profit margin based upon the numbers presented in this commenter's response.

Grand Canyon Airlines

Grand Canyon Airlines operates 4 DHC-6-300 (Twin Otters) with 19 passenger seats that have been retrofitted especially for sightseeing purposes. In 1998 dollars these aircraft were valued at between \$1.1 million and \$1.3 million, and on a per seat basis costs at between \$58,000 and \$68,000. This operator provided no information on the number of people employed.

Many comments made by the FAA in the regulatory evaluation to the proposed rule were rebutted by this operator and were correct. For example, this operator stated that air tour operators can offset lost revenue from flight limitations by raising prices. After reviewing the information provided by this and other commenters to the FAA, it is uncertain, how much, if any, prices can be increased due to an imposition of flight limitations. This commenter also said that, according to the FAA, air tour operators can move excess aircraft to other uses. After further review, if the gain from the alternative opportunity of moving excess aircraft to another use is greater than its current use, then the air tour operator should move his or her aircraft

This air tour operator also states that the per seat costs of other airplanes used in the Grand Canyon by other air tour operators may be less than their per seat costs for their airplanes used in the Grand Canyon. The comparison made by this air tour operator is correct for many other airplanes.

Another comment made by this air tour operator is that this limitations rule on air tour operators will have a large impact on operators with high fixed costs. The FAA also agrees with this point, but maintains

⁵² 9 aircraft * 108 days * X air tours/day = 4,640 air tours; solving for X results in 4.77 air tours/day

that in the long run all fixed costs are variable costs. In other words, air tour operators, should they want to sell any one of their aircraft can do so and significantly reduce their fixed costs.

This operator also provided the FAA with a significant amount of revenue and profit data, but as will be shown, the FAA found it to be of limited use in ascertaining the precise economic impact on this particular operator. Nevertheless, one can still draw the inference that this air tour operator will incur a significant economic impact over the next **ter** years.

This air tour operator provided to the FAA the actual number of revenue flights made from between 1993 and 1998. Using 4 DHC-6's throughout the entire period, the number of revenue flights, absent any FAA regulations on limiting air tours dropped about in half from 6,267 in 1993 to 5,358 in 1995 to 3,124 in 1997 to 3,270 in 1998. Using this information as well as other information provided by the **commenter**, total flight revenues, regardless of the year, was based on a load factor of exactly 15.53 passengers per flight. That is, the profit or loss data provided to the FAA by this operator did not account for any variations in the load factor throughout the entire period. The FAA believes that the actual load factor by year should be used in calculating the direct operating cost (DOC) per flight (DOC includes fuel costs, etc.) to measure profits since DOC varies by the number and weight of the passengers, distance flown, etc. It is uncertain, therefore what the actual profit or loss might have been for these years for this operator. Moreover, for this operator to experience an almost 50 percent drop in revenue flights without any variation in load factor suggests that a minimum, demand for his or her products is decreasing absent this rulemaking. Finally, this **commenter** used this revenue and cost data

under various "what if" scenarios, but since some of the initial data appears dubious, it is difficult to ascertain further impacts.

Nevertheless, it is apparent to the FAA, that this final rulemaking will curtail future growth. While the material submitted by this **commenter** indicates that demand for his or her product may have been declining over the past five years (this air tour operator has been using 4 **DHC-6's**, so supply has not a constraint), this rulemaking will not further reduce demand.