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DRAFT REGULATORY IMPACT ANALYSIS, INITIAL REGULATORY FLEXIBILITY DETERMINATION, TRADE IMPACT ASSESSMENT, AND UNFUNDED MANDATES

Special Federal Aviation Regulation (SFAR) 71 Air Tour Operators in the State of Hawaii

Notice of Proposed Rulemaking (14 CFR Parts 91, 121, 135)

OFFICE OF AVIATION POLICY AND PLANS,
OPERATIONS REGULATORY ANALYSIS BRANCH, APO-310
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EXECUTIVE SUMMARY

This regulatory evaluation estimates the benefits and costs of a proposed rule that would continue the existing safety requirements in Special Federal Aviation Regulation No. 71 (SFAR 71) and eliminate the termination date for SFAR 71. Currently, SFAR 71 is a final rule that will expire on October 26, 2003. Since 1994, the FAA has extended SFAR 71 for two 3-year periods. The procedural, operational, and equipment safety requirements of SFAR 71 would continue to apply to parts 91, 121, and 135 air tour operators in Hawaii. SFAR 71 does not apply to operations conducted under part 121 in airplanes with a passenger seating configuration of more than 30 seats and a payload capacity of more than 7,500 pounds or to flights conducted in gliders or hot air balloons.

The FAA estimates the total cost of this proposed rule at $29.8 million or $20.9 million, discounted. The costs reflect maintenance and operating costs attributable to flotation devices and flotation gear, operating costs required for calculating helicopter performance plans and providing passenger briefing for emergency egress in the event of a water landing. Lost opportunity costs would also be incurred due to the minimum weather provisions.

The quantified monetary benefits of the proposed rule are estimated at $125.3 million. An estimated 39 fatalities would be avoided, if the rule were 100 percent effective and the rule would have to be less than 23 percent effective for the cost per fatality avoided to significantly exceed the benchmark value of $3.0 million.

The FAA has determined that the benefits of the proposed rule would exceed the cost. The rule would not impact on international trade because the affected operators do not compete with foreign operators. The rule would not have an unfunded mandate exceeding $100 million annually on the private sector or state, local, and tribal governments. The FAA has determined that the proposed rule would have a significant impact on a substantial number of small air tour operators.

BACKGROUND

There are a total of 30 operators providing scenic flights over Hawaii of which 24 are part 135 air tour operators and 6 are sightseeing operators conducting flights under part 91. Tours are popular in Hawaii because many scenic areas of interest to tourists are virtually inaccessible except by aircraft. The natural features of Hawaii including its volcanoes, narrow valleys and beaches surrounded by cliffs create unique challenges to tour operators and their pilots. In the event of mechanical failure, a pilot may encounter difficulty in finding a suitable place for an emergency landing. The weather in Hawaii is highly changeable with frequent thunderstorms and sudden, strong winds.

In 1994, the FAA issued Special Federal Aviation Regulation (SFAR) no. 71 as an emergency rule because of the risks associated with air tours and the increase in the accident rate (59 FR 49138, September 26, 1994). The original SFAR was extended from its expiration date for an additional three years in 1997 (62 FR 58854, October 30, 1997) and again in 2000 for another three years (65 FR 58610, September 29, 2000).

There have been three lawsuits regarding the SFAR and the courts have found in favor of the FAA and the provisions of the SFAR have been upheld.

The SFAR requires operators to use a minimum flight altitude of 1,500 feet above the surface unless the operator obtains a deviation. While the FAA has granted deviations for lower altitudes over the years, many helicopter air tour pilots and air tour operators operating in Hawaii have petitioned the FAA in 2002 to amend SFAR 71 to allow air tour operations at 300 feet except when operating over habitable structures or congregations of people.

The FAA proposes to adopt SFAR 71 as a rule without a termination date. An altitude of 1,500 feet above the surface, while limiting a pilot's options, provides more reaction time to avoid an accident or correct an error than 300 feet allows. The FAA would continue to address deviation requests on a site-specific basis.

SECTION-BY-SECTION

In 1994, the FAA issued SFAR 71 as an emergency rule because of safety concerns about the risks associated with air tours in Hawaii and the increase in the accident rate (59 FR 49138, September 26, 1994). Presently, SFAR 71 imposes special requirements for all air tours conducted in Hawaii under parts 91, 135, and certain part 121 operations.

Section 3 specifically addresses single engine helicopters operated beyond the shore of any island. Without regard to gliding distance, the helicopter must be equipped with floats adequate to accomplish a safe emergency ditching as well as flotation gear easily accessible to each occupant. If there are no floats on the helicopter, each occupant must be actually wearing the flotation gear.

Section 4 applies to all helicopter air tours, not just single engine helicopters or off shore air tours, and requires operators to complete a performance plan before each flight. The pilot in command must comply with the performance plan.

Section 5 requires that, except for approach to, and transition from a hover, the pilot in command of a helicopter air tour operate at a combination of height and forward speed (including hover) that would permit a safe landing in the event of engine power loss, in accordance with the height-speed envelope for that helicopter under current weight and aircraft altitude.

Section 6 applies minimum altitudes for air tours in Hawaii. No person may conduct an air tour in Hawaii below an altitude of 1,500 feet above the surface or closer than 1,500 feet to any person or property. There are exceptions for altitudes necessary for takeoff and landing, compliance with air traffic control clearances, and altitudes prescribed by federal statute or regulation. Section 6 also allows deviation authority.

Section 7 requires that each pilot in command of an air tour flight of Hawaii, with a flight segment beyond the ocean shore of any island, ensure that passengers are briefed on water ditching procedures, use of flotation equipment, and how to exit from the aircraft in the event of a water landing.

COSTS

Helicopter Flotation Devices

The proposed rule would require single-engine helicopters conducting air tours beyond the shore of any island to be either amphibious or equipped with flotation devices. Air tour operators in Hawaii have already complied with this requirement so there are no capital costs associated with this provision. However, there are operating costs that include maintenance and aircraft performance penalties. The FAA assumes that all helicopters are equipped with emergency floats or with fixed floats.

Emergency floats require a detailed 180-day (or 500–flight-hour, which ever comes first) inspection that involves a complete float bag inflation test. In addition, emergency systems require a hydrostatic test of the nitrogen bottle used to inflate the bags every 3 years. Fixed floats generally require an inspection every 12 to 18 months. The FAA assumes that the inspection would occur annually. The annual inspection cost is estimated to equal one-tenth of the total system and installation and equipment cost based on the assumption that the entire system is replaced over a 10-year period. The FAA estimates that the average fixed float equipment and installation costs per helicopter is $17,500. The FAA estimates that the annual cost for the float inspections for the 68 helicopters will be $400,000 or $4.0 million over a 10-year period, $2.8 million, discounted as shown in Tables A-1 and A-2, in the appendix.

The helicopters would incur an operating penalty from increased fuel consumption due to the extra weight of the floats. Again, the costs differ between the helicopters configured with emergency floats and fixed floats. This is due partly to the difference in weight of the floats but more importantly because research conducted for the FAA indicates the

average annual hours flown by these two types of helicopters differs significantly[1]. The helicopters equipped with emergency floats are estimated to log an average of 1,250 annual flight hours while the helicopters equipped with fixed floats average 550 annual flight hours. The FAA estimates the 10-year weight-related costs at $4.6 million or $3.2 million, discounted as should in Tables A-3 and A-4, in the appendix.

The total operating costs for the 68 helicopters over a 10-year period are estimated at $8.6 million or $6.0 million, discounted as shown in Table 1.

Table 1- 10-Year Costs of Floatation Devices

Cost Area	Total Cost	Present Value
Inspection & Maintenance	$3,999,800	$2,809,100
Fuel Penalty	$4,600,200	$3,230,700
Total	$8,600,000	$6,039,800

Helicopter Flotation Gear

Section 3(a) requires each person on board an air tour helicopter to wear approved flotation gear. Air tour operators in Hawaii have already complied with this requirement so there are no acquisition costs associated with this provision. However, there are continuing maintenance costs associated with these life vests as well as a weight penalty. Life vests must be inspected 4 times per year at a cost of $10 per inspection. The vests weigh approximately 1.5 pounds each and the FAA estimates that approximately 400 are required. The annual life vest cost is estimated at $48,500 and the 10-year cost totals $485,000 or $341,000, discounted as shown in Tables A-5 and A-6, in the appendix. This cost may be overstated since the helicopter tour industry's T.O.P.S. program voluntarily requires occupants to wear flotation devices[2]

[1] GRA, Inc., "Estimates of the Sightseeing and Air Tour Industry", February, 1998, Table 3.2b

[2] Tour Operators Program of Safety (T.O.P.S.), an independent safety organization which includes 13 helicopter tour companies as members, requires each passenger and the pilot to wear an approved personal flotation device for over water flights.

Minimum Flight Altitude

Air tour operations may not be conducted below an altitude of 1,500 feet above the surface; closer than 1,500 feet to any person or property; or below any altitude provided by federal statute or regulation. Section 91.155 requires pilots conducting VFR flights over 1,200 feet above the surface to maintain a 500-foot vertical clearance below the clouds; pilots conducting VFR flights 1,200 feet or less above the surface in Class G airspace must simply remain clear of the clouds. Thus air tours require a ceiling of 2,000 feet to operate an air tour.

The FAA's Regulatory Evaluation[3] for SFAR 71 determined that approximately 2 percent of all air tour flights annually would be cancelled due to this provision. The percent of time that the ceiling would be at or below 2,000 feet varies by airport as shown in Table A-7, in the appendix.

Cancellation of an air tour will result in a loss of net operating revenue. Total revenue is based on an average of 5 passengers per air tour each paying a fee of $150 or a sum of $750[4]. The expenses paid are based on an average air tour taking about 45 minutes. Using average helicopter expenses of $675 per hour, the average expense per air tour is $506 including pilot's salary. Since the pilot likely receives an annual salary, the pilot's salary should be deducted from the expenses of the tour or $88 per air tour. The net operating loss per air tour is estimated at $418.

Using the percentages in Table A-7 in the appendix and multiplying by the total number of estimated air tours at each corresponding airport gives the number of flights that would be canceled at each airport. The number of canceled flights multiplied by the net loss per air tour of $418 results in the net loss per airport. These calculations are shown in Tables A-8 through A-13 in the appendix. The total lost net revenue due to this provision is estimated at $7.6 million or $5.3 million, discounted as shown in Table 2.

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[3] Final Regulatory Evaluation, Final Regulatory Flexibility Determination, and Trade Impact Assessment: "Air Tour Operators in the State of Hawaii" August 1994. A copy has been placed in the docket. See pages9-11.

[4] The revenues and expenses are the amounts used in the 1994 analysis adjusted for inflation of approximately 18 percent.

Table 2 Total Lost Net Revenue Due to Minimum Altitude

Year	Flights Canceled	Net Revenue Lost	Discount	Present Value
1	1530	$698,294	0.935	$652,905
2	1563	$712,781	0.873	$622,258
3	1596	$727,278	0.816	$593,459
4	1629	$741,771	0.763	$565,971
5	1662	$756,273	0.713	$539,223
6	1695	$770,775	0.666	$513,336
7	1729	$785,270	0.623	$489,223
8	1762	$799,775	0.582	$465,469
9	1795	$814,264	0.544	$442,960
10	1827	$828,356	0.508	$420,805
Total	16789	$7,634,838		$5,305,609

Helicopter Performance Plan

This rule would require each helicopter air tour operator to develop and comply with a performance plan. The development costs have already been incurred but each pilot must complete the performance plan before each flight. The plan must be based on information in the helicopter flight manual and must address such elements as maximum gross weight and center of gravity. The FAA estimates that it takes a pilot about 3 minutes to complete the calculations at a cost of $5.90 based on the pilot's hourly salary. Annual costs are estimated to be $492,450. (See Table A-14, in the appendix.) The 10-year cost of preparing the performance plans are estimated at $4.9 million or $3.5 million, discounted as shown in Table 3.

Table 3 Ten-Year Cost of Performance Plans

Year	Annual Cost	Discount	Present Value
1	$492,450	0.935	$460,441
2	$492,450	0.873	$429,909
3	$492,450	0.816	$401,839
4	$492,450	0.763	$375,739
5	$492,450	0.713	$351,117
6	$492,450	0.666	$327,972
7	$492,450	0.623	$306,796
8	$492,450	0.582	$286,606
9	$492,450	0.544	$267,893
10	$492,450	0.508	$250,165
Total	$4,924,500		$3,458,476

Passenger Briefing

This rule would require the pilot in command to provide a passenger safety briefing on water ditching procedures, use of required flotation devices, and emergency egress from the aircraft in event of a water landing. The FAA estimates it would take 4 minutes to provide the briefing at a cost of $7.91 based on the estimated hourly salary of the pilot-in-command. The 10-year cost of this provision is estimated at $8.1 million or $5.7 million, discounted as shown in Table A-15 in the appendix.

Cost Summary

The 10-year costs of this proposed rule is estimated at $29.8 million or $20.9 million, discounted as shown in Table 4.

Table 4 - Ten-Year Costs of SFAR 71 Provisions

Provision	Total Cost	Present Value
Floats	$8,600,000	$6,039,800
Life vests	$485,200	$340,700
Altitude	$7,634,800	$5,305,600
Performance	$4,924,500	$3,458,500
Briefing	$8,131,480	$5,710,700
Total	$29,775,980	$20,855,300

BENEFITS

In the twelve years prior to the adoption of SFAR 71 in 1994 Hawaiian air tour operators had experienced 15 accidents involving at least one serious injury or fatality resulting from inadvertent water landings, from flying into bad weather, or from flying too low. These accidents resulted in 48 fatalities and 16 serious injuries as indicated in Table A-16 in the appendix. Since SFAR 71 was adopted there have been a total of 12 air tour accidents from all causes of which 5 resulted in 24 fatal injuries as listed in Table A-17 in the appendix. The NTSB has determined the probable cause of four of the five fatal accidents. The probable cause in three of the accidents was the pilot's decision to continue visual flight into instrument meteorological conditions; two of these accidents involved helicopters and the third an airplane. The fourth accident was attributed to a loss of engine power involved a water ditching in which one passenger wearing an inflated life vest failed to exit the airplane and drowned. In the fifth accident, witnesses in the vicinity heard a mayday call and "could hear the 'engine out' audio tone in the background".[5]

The FAA has quantified the benefits of the flotation gear (vests) and minimum altitude provisions as discussed below. The benefits of the briefing provision are reflected in the

[5] NTSB Preliminary Report:LAX03FA200.

flotation gear provision. The benefits of the performance plan may be reflected in the absence of accidents similar to an April 18, 1994 accident where a Hughes 369D lost power during an out-of-ground hover and collided with rocky terrain below Waimea Falls, Kauai.

Helicopter Accidents without Flotation Gear (vests)

Between 1982 and 1994 there were 3 water-landing accidents in which 8 persons drowned. These 3 accidents occurred in the course of an estimated 1.176 million flights or 2.55 accidents per million helicopter air tour flights. Applying this accident rate to the forecast of 1.157 million flights over the next 10-years results in 3 accidents avoided and 8 fatalities averted and a monetary benefit of $24 million. See Tables A-18 – 20, in the appendix.

Helicopter Accidents Related to Weather And Flying Low

There were 7 helicopter accidents between 1982 and 1994 related to weather or flying low. These accidents resulted in 11 fatalities, 9 serious and 12 minor injuries. The helicopter air tour accident rate related to weather equaled 5.95 accidents per million flights. Between 1995 and 2002 there were 2 helicopter accidents resulting in 13 fatalities and a weather related accident rate of 2.43 accidents per million flights. This illustrates the effectiveness of the existing SFAR 71 and warrants its continuation. The difference in accident rates was 3.514 accidents per million flights. Based on a forecast of 1.16 million helicopter tours over the next 10-years, applying this accident rate would result in 4 accidents avoided and monetary benefits of $38.8 million. See Tables A 21 – 22 in the appendix.

Airplane Accidents Related to Weather And Flying Low

Airplane air tour operators experienced 5 weather related accidents between 1982 and 1994 (24.04 weather-related accidents per million operations) but only 1 weather-related accident between 1995 and 2002 (6.9 weather-related accidents per million operations). These 6 accidents resulted in 39 fatalities and 4 serious injuries. The difference in accident rates was 17.14 per million operations. Applying this accident rate differential

to the forecast of 183,000 flights over the next 10-years results in 3 accidents avoided and 20 fatalities averted and a monetary benefit of $62.5 million. See Tables A 23-24 in the appendix.

Summary of Benefits

The quantified benefits of this proposed rule are estimated at $125.3 million as summarized in Table 5.

Table 5 Quantified Benefits
of Proposed SFAR 71 Rule

Provision	**Benefit Value** ($ Millions)	
Flotation Gear		$24.0
Minimum Altitude		
Helicopters	$38.8	
Airplanes	$62.5	
		$101.3
Total		$125.3

BENEFIT-COST COMPARISON

The benefits of the proposed rule have been quantified at $125.3 million over a 10-year period while the undiscounted costs have been estimated at $29.8 million thus the proposed rule is cost beneficial.

To state the comparison differently, the FAA has also computed the cost of the proposed rule per estimated life saved. The proposal would have to be less than 23 percent effective for the cost per fatality avoided to exceed the benchmark value of $3.0 million.

Table 6 Sensitivity Analysis: Cost of Proposed Rule per Life Saved

Effectiveness of Proposed Rule	Estimated Fatalities Avoided	Cost per Fatality Avoided
100%	39	$ 710,505
49%	19	$ 1,458,405
26%	10	$ 2,770,970
23%	9	$ 3,078,856

INITIAL REGULATORY FLEXIBILITY DETERMINATION

The Regulatory Flexibility Act of 1980 (RFA) establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the business, organizations, and governmental jurisdictions subject to regulation." To achieve that principle, the RFA requires agencies to solicit and consider flexible regulatory proposals and to explain the rationale for their actions. The RFA covers a wide-range of small entities, including small businesses, not-for-profit organizations and small governmental jurisdictions.

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 agency determines that it will, the agency must prepare a regulatory flexibility analysis as described in the RFA.

However, if an agency determines that a proposed or final rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the RFA provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

The FAA conducted the required review of this proposal and determined that it would have a significant economic impact on a substantial number of small entities. Accordingly, pursuant to Section 603 of the Regulatory Flexibility Act, the Federal Aviation Administration has prepared the following initial regulatory flexibility analysis.

Reasons Why Agency Action Is Being Considered

The FAA is proposing to continue the existing safety standards in SFAR 71 without a termination date as a result of the reduction in accidents and incidents involving air tour operators in Hawaii and NTSB recommendations. The rationale for the major provisions of the NPRM are summarized below:

Safety provisions addressing the risks of beyond the shore operations. Based on an analysis of the risks of beyond the shore operations and NTSB recommendations, the FAA concludes that the benefits of these provisions justify the costs. Based on survivors' testimony, life preservers alone are insufficient in preventing loss of life in helicopter accidents over water. Without floats, helicopters sink very quickly upon impact, giving occupants little time to exit the aircraft. The FAA believes that helicopter floats, in conjunction with life preservers and pre-flight briefing on water ditching procedures, would significantly improve the chances of survival. Therefore, this proposal would require life preservers and passenger briefings for all air tours and floats for helicopters.

Provisions addressing weather. Between 1982 and 1994 there were 12 weather related accidents in Hawaii while between 1994 and 2002 there were 3 weather related accidents. This illustrates the effectiveness of the existing SFAR 71 weather related provisions and warrant their continuation.

Statement of Objectives and Legal Basis

The objective of this proposal is to continue a higher level of safety for Hawaii air tours.

Under the United States Code, the FAA Administrator is required to consider the following matter, among others, as being in the public interest: assigning, maintaining, and enhancing safety and security as the highest priorities in air commerce. [See 49 U.S.C. §40101(d)(1).] Additionally, it is the FAA Administrator's statutory duty to carry out her responsibilities "in a way that best tends to reduce or eliminate the possibility or recurrence of accidents in air transportation." [See 49 U.S.C. §44701(c).] Accordingly, this notice proposes to amend Title 14 of the Code of Federal Regulations to continue the safety requirements of air tour operations in Hawaii, without a termination date.

Description of Small Entities Affected

The FAA concludes that all of the entities affected by the proposed amendments are small according to thresholds established by the Small Business Administration (i.e., employ fewer than 1,500 employees). An estimated 6 part 91 operators and 24 part 135 operators would be affected by the rule. The part 91 operators own about 11 aircraft, while the part 135 operators have about 80 aircraft. This proposed rule would impose total annualized costs per operator of approximately $99,000. According to a Small Business Administration analysis of Bureau of Census data for non-scheduled air transportation firms,[6] firms with fewer than 500 employees have average revenues of $1.87 million. The estimated cost to each of these small entities is approximately 5.3 percent of the average revenue of non-scheduled air transportation firms with fewer than 500 employees based on the SBA's Census data cited.

Projected Reporting, Recordkeeping and Other Compliance Requirements

The annualized cost for completing the performance plan and conducting the passenger briefing would impose average annualized costs per operator of approximately $43,500.

Overlapping, Duplicative, or Conflicting Federal Rules

The proposed rule would not overlap, duplicate, or conflict with existing Federal Rules.

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[6] Source: .SBA Advocacy Office statistics for 1997. All Hawaii air tour operators are assumed to have fewer than 500 employees.

Analysis of Alternatives

Affected operators and helicopter air tour pilots have petitioned the FAA to amend SFAR 71. They argue that SFAR 71's 1500 minimum altitude requirement is "cumbersome and lacks flexibility in dynamic circumstances." The petitioners also maintain that allowing air tour flights as low as 300 feet above the surface would make SFAR 71 safer in certain circumstances.

The FAA has considered the petitioners views in formulating this proposed rule. The issues raised are similar to comments received by the agency during the three SFAR rulemaking preceding this proposed rule. The FAA concludes that 1,500 feet provides a pilot with more distance, and, thus time, to avoid an accident or to deal with an error. An altitude of 300 feet provides 80 percent less distance and thus, much less reaction time.

Affordability Analysis

The FAA lacks reliable revenue and profit data on the individual entities affected by this rule, but the estimated cost to each of these small entities is approximately 5.3 percent of the average revenue of non-scheduled air transportation firms with fewer than 500 employees based on the SBA's Census data. Hawaii air tour operators have been subject to the proposed provisions of this rule since 1994. While there are fewer operators today than in 1994, the cause cannot be directly attributed to SFAR 71 but rather, the vagaries and nature of the tourism market. New air tour operators have entered the market after making the business decision to accept the provisions of this rule. The FAA invites comment on the potential impact of the proposal on revenues and profits.

Business Closure Analysis

The FAA estimates that none of the operators currently providing air tour flights would elect to stop providing the service. These operators have been complying with these provisions since 1994.

Disproportionality Analysis

All Hawaiian entities in the air tour market are small. Accordingly, the costs imposed by this proposal would be borne almost entirely by small businesses. The estimated costs

are proportional to the frequency of operations and thus the burden is not disproportionate. Air tour safety in Hawaii has been significantly improved, and the FAA believes that the only way to continue this is to maintain these higher standards on these entities.

Key Assumptions Analysis

The FAA has made several conservative assumptions in this analysis, which may have resulted in an overestimate of the costs of the proposal. For example, the FAA assumes that the pilot in command would conduct all pre-flight briefings but the provision only requires the pilot to "ensure that each passenger has been briefed". The briefing could be recorded or provided by a lower paid employee. Also, the helicopter life preserver costs may be overestimated since there is a voluntary industry standard to which 13 helicopter tour operators subscribe that requires occupants to wear a personal flotation device.

TRADE IMPACT ASSESSMENT

The Trade Agreement Act of 1979 prohibits Federal agencies from establishing any standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards.

In accordance with the above statute, the FAA has assessed the potential effect of this proposed rule and has determined that it would have only a domestic impact and therefore no affect on any trade-sensitive activity.

UNFUNDED MANDATES ASSESSMENT

The Unfunded Mandates Reform Act of 1995 (the Act) is intended, among other things, to curb the practice of imposing unfunded Federal mandates on State, local, and tribal

governments. Title II of the Act requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of $100 million or more (adjusted annually for inflation) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a "significant regulatory action."

This proposed rule does not contain such a mandate. The requirements of Title II do not apply.

APPENDIX

Table A-1- Annual Maintenance and Inspection Costs for Floats

Emergency Floats		
Hydrostatic Test (annualized)		$55
Annual Inspection (30hrs/year@ $50/hr)		$1,500
Replacement Parts		$8,000
Total Inspection Cost		$9,555
Number of Helicopters	36	
Annual Cost		$343,980
Fixed Floats		
Initial Equipment & Installation Cost		$17,500
Annual Cost (0.10%)		$1,750
Number of Helicopters	32	
Annual Cost		$56,000
Total Annual Cost		$399,980

Table A-2 Ten-Year Float Costs

Year	Annual Cost	Discount	Present Value
1	$399,980	0.935	$373,981
2	$399,980	0.873	$349,183
3	$399,980	0.816	$326,384
4	$399,980	0.763	$305,185
5	$399,980	0.713	$285,186
6	$399,980	0.666	$266,387
7	$399,980	0.623	$249,188
8	$399,980	0.582	$232,788
9	$399,980	0.544	$217,589
10	$399,980	0.508	$203,190
Total	$3,999,800		$2,809,060

Table A-3 Annual Fuel Penalty

Gallons/Airborne Hr/Pound Increase for Helicopters Less Than 6,000 Pounds	0.028124
Flight Hours per year	
Fixed	556
Emergency	1253
Weight Increase	
Fixed	100
Emergency	130
Gallons per Airborne Hour	
Fixed	2.8124
Emergency	3.6561
Gallons per Year	
Fixed	1563
Emergency	4582
Annual Cost/Helicopter @ $.2.14/gallon)	
Fixed	$3,345
Emergency	$9,805
Annual Fleet Cost	
Fixed (32)	$107,040
Emergency (36)	$352,980
Total Annual Cost	$460,020

Incremental Fuel Consumption is based on estimates prepared by Washington Consulting Group "Impact of Weight Changes on Aircraft Fuel Consumption" March, 1994

Table A-4 Ten-Year Fuel Penalty

Year	Annual Cost	Discount	Present Value
1	$460,020	0.935	$430,119
2	$460,020	0.873	$401,597
3	$460,020	0.816	$375,376
4	$460,020	0.763	$350,995
5	$460,020	0.713	$327,994
6	$460,020	0.666	$306,373
7	$460,020	0.623	$286,592
8	$460,020	0.582	$267,732
9	$460,020	0.544	$250,251
10	$460,020	0.508	$233,690
Total	$4,600,200		$3,230,720

Table A-5 Annual Life Vest Costs

Gallons/Airborne Hr/Pound Increase for Helicopters Less Than 6,000 Pounds		0.028124
Flight Hours per year		
Fixed		556
Emergency		1253
Weight Increase (1.5 pounds each)		
Fixed		7.5
Emergency		9
Gallons per Airborne Hour		
Fixed		0.21093
Emergency		0.253116
Gallons per Year		
Fixed		117.3
Emergency		317.2
Annual Cost/Helicopter @ $.2.14/gallon)		
Fixed		$251
Emergency		$679
Annual Fleet Fuel Cost		
Fixed (32)		$8,032
Emergency (36)		$24,444
Total Annual Fuel Cost		$32,476
Maintenance Cost (4 times/yr/per vest @$10)		$40
Total Vests	400	
Total Annual Maintenance Cost		$16,000
Total Annual Life Vest Cost		$48,516

Table A-6 Ten-Year Life Vest Costs

Year	Annual Cost	Discount	Present Value
1	$48,516	0.935	$45,362
2	$48,516	0.873	$42,354
3	$48,516	0.816	$39,589
4	$48,516	0.763	$37,018
5	$48,516	0.713	$34,592
6	$48,516	0.666	$32,312
7	$48,516	0.623	$30,225
8	$48,516	0.582	$28,236
9	$48,516	0.544	$26,393
10	$48,516	0.508	$24,646
Total	$485,160		$340,728

Table A-7

Percent of Time Ceiling is 2,000 Feet or Below, by Airport

Airport	**Percent**
Hilo	4.71
Honolulu International	0.54
Kahului	1.23
Keahole	4.71
Molokai	1.23
Lihue	2.44

Table A-8 Lost Net Revenue Due to Minimum Altitude
Hilo Airport

Year	Annual Flights	Flights Canceled	Net Revenue Lost
1	16756	789	$329,889
2	17032	802	$335,323
3	17308	815	$340,756
4	17585	828	$346,210
5	17861	841	$351,644
6	18137	854	$357,078
7	18414	867	$362,531
8	18690	880	$367,965
9	18966	893	$373,399
10	19243	906	$378,852
Total	179992	8478	$3,543,646

Notes: Annual Flights derived from Terminal Area Forecast FY 2002-2020, FAA Office of Aviation, Policy, and Plans.
Percent of Time Ceiling Below or Equal to 2,000 Feet = 4.71
Net Revenue Lost per Tour = $418

Table A-9 Lost Net Revenue Due to Minimum Altitude
Honolulu International

Year	Annual Flights	Flights Canceled	Net Revenue Lost
1	27337	148	$61,705
2	28067	152	$63,353
3	28797	156	$65,001
4	29527	159	$66,648
5	30257	163	$68,296
6	30987	167	$69,944
7	31716	171	$71,589
8	32447	175	$73,239
9	33176	179	$74,885
10	33724	182	$76,122
Total	306035	1653	$690,782

Notes: Annual Flights derived from Terminal Area Forecast FY 2002-2020, FAA Office of Aviation, Policy, and Plans.
Percent of Time Ceiling Below or Equal to 2,000 Feet = 0.54
Net Revenue Lost per Tour = $418

Table A-10 Lost Net Revenue Due to Minimum Altitude
Kahului Airport

Year	Annual Flights	Flights Canceled	Net Revenue Lost
1	31862	392	$163,815
2	32666	402	$167,949
3	33470	412	$172,083
4	34274	422	$176,216
5	35079	431	$180,355
6	35883	441	$184,489
7	36687	451	$188,623
8	37491	461	$192,756
9	38295	471	$196,890
10	39100	481	$201,029
Total	354807	4364	$1,824,205

Notes: Annual Flights derived from Terminal Area Forecast FY 2002-2020, FAA Office of Aviation, Policy, and Plans.
Percent of Time Ceiling Below or Equal to 2,000 Feet = 1.23
Net Revenue Lost per Tour = $418

Table A-11 Lost Net Revenue Due to Minimum Altitude
Keahole Airport

Year	Annual Flights	Flights Canceled	Net Revenue Lost
1	4890	230	$96,273
2	4890	230	$96,273
3	4890	230	$96,273
4	4890	230	$96,273
5	4890	230	$96,273
6	4890	230	$96,273
7	4890	230	$96,273
8	4890	230	$96,273
9	4890	230	$96,273
10	4890	230	$96,273
Total	48900	2303	$962,733

Notes: Annual Flights derived from Terminal Area Forecast FY 2002-2020, FAA Office of Aviation, Policy, and Plans.
Percent of Time Ceiling Below or Equal to 2,000 Feet = 4.71
Net Revenue Lost per Tour = $418

Table A-12 Lost Net Revenue Due to Minimum Altitude
Molokai Airport

Year	Annual Flights	Flights Canceled	Net Revenue Lost
1	11400	140	$58,612
2	11534	142	$59,301
3	11668	144	$59,990
4	11803	145	$60,684
5	11937	147	$61,373
6	12072	148	$62,067
7	12206	150	$62,756
8	12341	152	$63,450
9	12476	153	$64,144
10	12610	155	$64,833
Total	120047	1477	$617,210

Notes: Annual Flights derived from Terminal Area Forecast FY 2002-2020, FAA Office of Aviation, Policy, and Plans.
Percent of Time Ceiling Below or Equal to 2,000 Feet = 1.23
Net Revenue Lost per Tour = $418

Table A-13 Lost Net Revenue Due to Minimum Altitude
Lihue Airport

Year	Annual Flights	Flights Canceled	Net Revenue Lost
1	31168	760	$317,889
2	31954	780	$325,905
3	32741	799	$333,932
4	33527	818	$341,949
5	34314	837	$349,975
6	35101	856	$358,002
7	35888	876	$366,029
8	36675	895	$374,056
9	37461	914	$382,072
10	38248	933	$390,099
Total	347077	8469	$3,539,908

Notes: Annual Flights derived from Terminal Area Forecast FY 2002-2020, FAA Office of Aviation, Policy, and Plans.
Percent of Time Ceiling Below or Equal to 2,000 Feet = 2.44
Net Revenue Lost per Tour = $418

Table A-14 Annual Cost of Helicopter Performance Plan

Type of Helicopter	Annual Hrs	Number	Total Hrs
EMERGENCY Floats	1250	36	45000
Fixed	550	32	17600
Total			62600
Number of Tours (45 minutes per)			83467
Cost per Plan			$5.90
(Hourly Wage of $118 x 0.05 hr.)			
Annual Cost			$492,453

Table A-15 Passenger Briefings

Year	Annual Briefings	Annual Cost	Discount	Present Value
1	102800	$ 813,148	0.935	$ 760,293
2	102800	$ 813,148	0.873	$ 709,878
3	102800	$ 813,148	0.816	$ 663,529
4	102800	$ 813,148	0.763	$ 620,432
5	102800	$ 813,148	0.713	$ 579,775
6	102800	$ 813,148	0.666	$ 541,557
7	102800	$ 813,148	0.623	$ 506,591
8	102800	$ 813,148	0.582	$ 473,252
9	102800	$ 813,148	0.544	$ 442,353
10	102800	$ 813,148	0.508	$ 413,079
Total	1028000	$ 8,131,480		$ 5,710,738

Note: Briefing takes 4 minutes Pilot salary at $118 per hour
Cost per briefing is $118 x 0.067 hr. = $7.91

Table A-16
Hawaii Air Tour Accidents Related to
Provisions of SFAR 71 1982-1994

Date	Fatal	Serious	Aircraft
09/02/1982	0	2	Bell206L
04/08/1984	4	0	G AA-5A
09/28/1985	1	0	AS350D
01/01/1986	1	4	C172
04/24/1987	4	0	C173
03/29/1987	1	3	Bell206B
05/18/1988	2	1	Bell206B
06/11/1989	11	0	BE H18
11/09/1991	0	1	Bell206B
04/22/1992	9	0	BE E18S
09/18/1992	7	0	AS350B
01/25/1993	4	0	FH-110
02/23/1994	0	1	AS350B
04/18/1994	1	4	HU369D
07/14/1994	3	0	AS350B
Total	48	16	

Table A-17
Hawaii Air Tour Accidents Since Adoption of SFAR 71
Oct. 26, 1994 -June 30, 2003
(Excludes non-air tour accidents involving air tour operators)

Date	NTSB LAX #	Fatal	Serious	Part	Aircraft
10/11/1995	96LA009	0	0	135	HU-369
12/29/1995	96LA092A	0	0	91	Waco-YMF
11/12/1996	97LA039	0	0	135	HU-369
07/16/1997	97LA245	0	0	91	Waco-YMF
06/25/1998	98FA211	6	0	135	AS-350-BA
09/25/1999	DCA99MA	10	0	135	PA-31-350
04/21/2000	00LA167	0	0	135	AS-350-BA
07/21/2000	00MA273	7	0	135	AS-355_F1
08/25/2000	00FA310	1	0	135	PA-31-350
05/18/2001	01LA181	0	0	135	C-337C
09/29/2001	01LA306	0	0	135	Bell 206B
06/15/2003	03FA200	4	0	135	MD-369D
Total	12	24	0	10-135	7- Helicopter 5-Plane

Table A-18 Annual Airtour Flights

Year	Helicopter	Airplane	Total
1	105270	16613	121883
2	107600	16980	124580
3	109930	17348	127278
4	112261	17716	129977
5	114592	18084	132676
6	116923	18452	135375
7	119253	18819	138072
8	121585	19187	140772
9	123914	19555	143469
10	126090	19898	145988
Total	1157418	182652	1340070

Table A-19 Estimated Flotation Gear Accidents

Period	Flights	Accidents	Accident Rate
1982-1994	1,176,874	3	2.55
2003-2012	1,157,418	**3**	

Table A-20 Estimated Benefits of Flotation Gear Requirements

Accidents Avoided	3
Averted Fatalities	8
Benefits of Averted Fatalities	$24 million

Note; Value of averting fatality per "Treatment of Life and Injury in Economic Analyses" APO-02-1 February 2002

Table A-21 Estimated Weather Related Helicopter Accidents

Period	Flights	Accidents	Accident Rate
1982-1994	1,176,874	7	5.948
1995-2002	821,696	2	2.434
Difference in Rate			3.514
2003-2012	1,157,418	**4**	

Table A-22 Estimated Benefits of Minimum Altitude Requirements
Helicopters

Accidents Avoided	4
Averted Fatalities	11
Benefits of Averted Fatalities	$33 million
Averted Serious Injuries	4
Benefits of Averted Serious Injuries	$2.3 million
Averted Minor Injuries	5
Benefits of Averted Minor Injuries	$0.2 million
Aircraft Damages Avoided	$3.3 million
Total Benefits	$38.8 million

Notes; Value of averting fatality and injury per
"Treatment of Life and Injury in Economic Analyses"
APO-02-1 February 2002
The average number of fatalities and injuries per accident for
the period 1982-2002 was 2.67 fatal, 1 serious and 1.33 minor
These averages were used to compute the benefits listed
Aircraft value based on average value of turbine rotorcraft at
or less than 6,000 pounds per "Aircraft Bluebook Price Digest".
4 destroyed,

Table A-23 Estimated Weather Related
Airplane Accidents

Period	Flights	Accidents	Accident Rate
1982-1994	208000	5	24.04
1995-2002	145000	1	6.90
Difference in Rate			17.14
2003-2012	182652	**3**	

Table A-24 Estimated Benefits of Minimum Altitude Requirements
Airplanes

Accidents Avoided		3
Averted Fatalities		20
Benefits of Averted Fatalities	$60 million	
Averted Serious Injuries		2
Benefits of Averted Serious Injuries	$1.2 million	
Aircraft Damages Avoided	$1.3 million	
Total Benefits	$62.5 million	

Notes; Value of averting fatality and injury per
"Treatment of Life and Injury in Economic Analyses"
APO-02-1 February 2002
The average number of fatalities and injuries per accident for
the period 1982-2002 was 6.5 fatal, and 0.67 serious
These averages were used to compute the benefits listed
Aircraft value based on average value of 1 turboprop
and 5 piston engine airplanes per "Aircraft Bluebook Price Digest".