Appendix S  ✄  FAA Weight-Based Restrictions at Airports

DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
[Docket No. FAA–2003–15495]

Weight-Based Restrictions at Airports: Proposed Policy
AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Notice of proposed policy; request for comments.

SUMMARY: This notice requests comments on a proposed statement of policy on the use of weight-based airport access restrictions as a means of protecting airfield pavement. In general, agreements between an airport operator and the FAA for federal airport development grants, the airport operator makes certain assurances to the FAA. These assurances include an obligation to provide access to the airport on reasonable, not unjustly discriminatory terms to air carriers using the airport. Some airport operators have implemented restrictions on use of the airport by aircraft above a certain weight, to protect pavement not designed for aircraft of that weight. These actions have raised the question of whether such action is a reasonable restriction on use of the airport. In the interest of applying a uniform national policy to such actions, the FAA is publishing a comment draft policy on weight-based access restrictions at federally obligated airports.

DATES: Comments must be received by August 15, 2003. Comments that are received after that date will be considered only to the extent possible.

ADDRESSES: The proposed policy is available for public review in the Dockets Office, U.S. Department of Transportation, Room Plaza 401, 400 Seventh Street, SW., Washington, DC 20590–0001. The docket has been placed on the Internet at the Federal Aviation Administration’s Web site at http://www.faa.gov. The public may also call 202–366–9846 or comment by e-mail at public-dockets@faa.dot.gov. The docket may be viewed in person at the Dockets Office between 9:00 a.m. and 5:00 p.m., Monday through Friday, except Federal holidays. The Dockets Office is located in the U.S. Department of Transportation Building on the plaza level of the Rosslyn Building at the Department of Transportation at the above address. You may also review public docket files at the Federal Aviation Administration’s Web site at http://www.faa.gov. Comments on the proposed policy must be received on or before the dates specified in the request for comments.

FOR FURTHER INFORMATION CONTACT: For further information, contact Paul W. Manning, Attorney-Advisor, Office of the Legal Advisor, 202–853–3884, or e-mail at faa–2003–15495–0001. The docket has been placed on the Internet at http://public-dockets@faa.dot.gov. The docket may be viewed in person at the Dockets Office between 9:00 a.m. and 5:00 p.m., Monday through Friday, except Federal holidays. The Dockets Office is located in the U.S. Department of Transportation Building on the plaza level of the Rosslyn Building at the Department of Transportation at the above address. You may also review public docket files at the Federal Aviation Administration’s Web site at http://www.faa.gov. Comments on the proposed policy must be received on or before the dates specified in the request for comments.

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a aircraft considered in the design of the airport's pavement. The FAA found, in summary, that the airport operator could limit use above the design weight of the pavement, but that some operations above that weight could and should be permitted, because they would have no measurable effect on the pavement. The FAA has received several questions relating to the policy underlying that determination.

In view of the importance of the policies at stake, we believe it is appropriate to issue more specific guidance on the specific issues of weight-based access restrictions.

The policy proposed in this notice provides more detailed guidance on how the FAA will interpret Grant Agreement No. 23. It allows an airport sponsor limits operation by aircraft above a certain weight in order to preserve the integrity of airport pavement. The FAA requests comment on the following statement of policy, and may modify the policy in accordance with comments received on this notice. For any cases presented before a final policy is issued, the FAA will apply the policy as proposed in this notice.

For the above reasons, the FAA proposes to adopt the following policy: Operating Limitations to Protect Airport Pavements From the Effects of Operations in Excess of Design Weight-Bearing Capacity

1. When designing new airport pavement or rehabilitating existing pavement, airport operators design the pavement to accommodate the loads and frequencies of the aircraft expected to use the airport over the period of expected pavement life. A load-bearing capacity is then assigned to the pavement based upon the most demanding aircraft. Once that pavement is constructed, airport operators have a responsibility to protect the local and Federal investment in the pavement. At the same time, airport operators are encouraged to upgrade airport pavements for forecast increases in aircraft size or operations, or if the number of operations and size of aircraft increases over time beyond what was forecast.

2. Airport pavements are designed to accommodate a finite number of aircraft operations, based on planning forecasts and experience. In most cases it should not be necessary or appropriate to impose aircraft operating restrictions to protect pavement from occasional operations of aircraft which exceed the loaded pavement strength. Even in the exceptional case in which the mix of aircraft types using the pavement becomes heavier over time, a limitation on maximum weight of aircraft may not be warranted. It is the nature of airport pavement to begin a gradual deterioration process as soon as it is opened to traffic. A pavement designed for a specified number of operations by an aircraft type of a particular weight will not be immediately affected by some number of operations by heavier aircraft, up to a point. In general, each 10% increase in weight of the most demanding aircraft will decrease the number of design operations by 20-25%. The original load-bearing capacity of pavement may be increased by surface overlays or other pavement rehabilitation techniques. Therefore, some number of operations by aircraft exceeding the design load-bearing capacity of airport pavement by some degree will ordinarily not have a sufficient impact to shorten its useful life. (The Airport/Facility Directory introductory language notes that "[Where additional pavement capacity is available, the FAA recommends that the airport operator take such action as may be necessary to protect the pavement."")

3. However, where the airport operator reasonably believes that actual damage or excessive wear has resulted or would result from operation of an aircraft of a particular weight (and particular gear configuration), then the airport operator can limit those operations to the extent necessary to prevent that damage or excessive wear.

4. The design load-bearing capacity of pavement is a guide to the probability of adverse effects on pavement life. Design load-bearing capacity is demonstrated by specifying loads and frequencies of the aircraft expected to use the airport over the period of expected pavement life. Design load-bearing capacity is demonstrated by planning and engineering documents created at the time the pavement was designed, constructed, rehabilitated or improved. Testing to determine actual load-bearing capacity may be necessary in cases where design information is unavailable or does not appear to represent actual current condition of the pavement.

5. Any action by the airport operator to limit operations above the design load-bearing capacity must be reasonable and unobjectionable, and would require evidence of the effect of operations at certain weights on the pavement. Such limitations, if determined to be necessary, could include:

- Requiring particular use of taxi routes and parking areas for aircraft above a certain weight, to avoid weaker areas;
- Requiring prior permission for operation by aircraft above the design load-bearing capacity of the pavement (see examples in Exhibit 1);
- Permitting operations of such aircraft only up to a certain weight;
- Prohibiting all operations by aircraft exceeding a weight at which even a small number of operations would significantly reduce pavement life;
- Assigning heavy aircraft to a particular runway (through agreement with Air Traffic Control) if operationally feasible.

Operational limits on the number of operations and/or weight of operations must be based on an analysis of pavement life using known pavement design capacity, actual load-bearing capacity, and actual condition. That analysis can be performed with the AAS-100 Pavement Design Software, based on Advisory Circulars AC 150/5320-6, available on the FAA's Airport Design website. Analysis is also required to assess the load-carrying capacity of existing bridges, culverts, in-pavement lighting fixtures, and other structures affected by the proposed traffic. Such structures are generally not capable of supporting a single load application of the aircraft's weight, and may bear only the same weight as any operations by heavier aircraft unless other taxi routes can be specified. Guidance for these evaluations is stated in AC 150/5320-6.

6. The airport operator may avoid any issue of reasonable, unobjectionable access to the airport by accommodating current operations and bringing pavement up to the standard for the current use of the airport and the condition of the pavement requires.

7. This policy applies only to load-bearing capacity of pavement condition, and does not apply to geometric airport design standards.

This policy applies only to the purpose of protecting an airport operator's investment in pavement, and is not a substitute for noise restrictions. If there is no showing of need to protect pavement life, or the limit on airport use appears motivated by interest in mitigating noise without going through processes that exist for such restrictions, an attempt to limit aircraft by weight will be considered unreasonable. The FAA notes that there are a few existing noise rules that include weight categories, generally adopted before ANCA and the AAS-100 became operational. Failure to address these rules will be addressed on a case-by-case basis.

Examples

Airport operators may experience demand for use of the airport by aircraft that weigh more than the design load-bearing capacity of the airport...
pavement. In some cases that demand can adversely affect pavement condition. Ideally the airport operator should accommodate demand by upgrading facilities. If that option is not practical the airport operator can permit reasonable access by these aircraft while avoiding adverse effects on existing pavement, by regulating the number and maximum weight of operations on a prior-permission required basis. The number and maximum weight of operations permitted would vary according to the specific circumstances at each airport, including:

- Pavement load-bearing capacity.
- The mix of aircraft operating at the airport. The heavier the aircraft, the fewer operations it takes to have an effect on pavement life.
- Seasonal effects on pavement strength, for example wet or dry subgrade conditions or very low or high pavement temperatures.

The following scenarios are recommendations but examples of limitations that might be appropriate in particular circumstances. Local conditions may require more complex solutions. An engineering analysis will be required in each case.

**Scenario 1**

The airport pavement is designed to 60,000 lb. dual-wheel load. Pavement design and soil support conditions are known. Operations up to 60,000 lb. are unrestricted, and the issue is how many flights should be permitted above that weight.

The airport receives frequent operations by several aircraft types at 70,000 lb., and occasional operations at 105,000 lb., but very few operations by other aircraft types in between these weights.

Reference to AC 150/5320-6b shows that on an annual basis up to x operations at 70,000 lb. and xx operations at 105,000 lb. together would have as measurable affect on the life of the pavement, but more operations at either weight would begin to shorten pavement life.

The operator could require prior permission for operations above 60,000 lb. Permission would be granted on a first-come first-served basis, for xx (xxxx/xx) operations per week up to 70,000 lb. and for xx (xxxx/xx) operations per week up to 105,000 lb.

**Scenario 2**

The airport pavement is designed to 100,000 lb., with dual-wheel gear support conditions. Pavement design and soil support conditions are known. Most operations at the airport are well under 100,000 lb., but the airport receives regular operations by various types of aircraft at weights from 100,000 lb. up to 135,000 lb. Operations up to 135,000 lb. are unrestricted, and the issue is how many flights should be permitted above that weight.

Reference to AC 150/5320-6b shows that on an annual basis various assessments of operations above 100,000 lb. can operate without measurable effect on the life of the pavement. However, there is no single "right" combination, because more operations at one weight will reduce the number of operations at another weight. Also, each flight at the heaviest end of the scale, e.g., 135,000 lb., has a disproportionately adverse effect equal to several flights at the lower end of the scale, e.g., just above 105,000 lb.

There may be many ways to allocate limited operating rights for the various types of aircraft that would use the airport over time, while controlling the maximum cumulative stress on the airport's pavement. One way would be to allocate operating permission by "points" rather than by number of operations. While the numbers actually used would need to be validated using AC 150/5320-6b, something like the following could be used:

- Each operation 100,000 lb. to 110,000 lb. 1 point.
- Each operation 110,000 lb. to 120,000 lb. 2 points.
- Each operation 120,000 lb. to 135,000 lb. 4 points.
- Each operation 135,000 lb. to 140,000 lb. 8 points.
- Each operation 140,000 lb. or more 16 points.

If AC 150/5320-6b indicated that no combination of operations equal to an annual usage of 1200 points would have an adverse effect on pavement life, then the airport operator could allocate 23 points a week with no adverse effects.

The operator would require prior permission for operations above 100,000 lb. Permission would be granted on a first-come first-served basis, until the weekly allocation of points was assigned.


David L. Bennett,
Director, Airport Safety and Standards.
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DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
DEPARTMENT OF INTERIOR
National Park Service

**Membership in the National Parks Overflights Advisory Group**

**AGENCIES:** National Park Service and Federal Aviation Administration.

**ACTION:** Notice.

**SUMMARY:** By Federal Register notice published on April 28, 2003, the National Park Service (NPS) and the Federal Aviation Administration (FAA), asked interested persons to apply to fill a vacant position representing aviation interests on the National Parks Overflights Advisory Group (NPOAG). This notice informs the public of the person selected to fill that vacancy on the NPOAG.

**FOR FURTHER INFORMATION CONTACT:** Barry Brayner, Executive Resource Staff, Western Pacific Region Headquarters, 15000 Aviation Blvd, Hawthorne, CA 90250, telephone: (310) 725-3800, Email: Barry.Brayner@fws.gov, or Howie Thompson, Natural Sounds Program, National Park Service, 12756 W. Ahmada Parkway, Denver, Colorado, 80225, telephone: (303) 905-5481; Email: Howie.Thompson@fws.gov.

**SUPPLEMENTARY INFORMATION:**

**Background**

The National Parks Air Tour Management Act of 2000 (the Act) was enacted on April 5, 2000, as Public Law 106-181. This Act requires the establishment of the advisory group within 1 year after its enactment. The NPOAG was established in March 2001. The advisory group is comprised of a balanced group of representatives of general aviation, commercial air tour operations, environmental concerns, and Native American tribes. The Administrator and the Director (or their designees) serve as ex officio members of the group. Representatives of the Administrator and Director serve alternating 1-year terms as chairman of the advisory group.

The advisory group provides advice, information, and recommendations to the Administrator and the Director—

1. on the implementation of this title (the Act) and the amendments made by this title; and
2. on commonly accepted quiet aircraft technology for use in commercial air tour operations over a national park or tribal lands, which will receive preferential treatment in a given air tour management plan;