

## **APPENDIX E**

**FEDERAL AVIATION  
REGULATIONS**

**PART 139**

**CERTIFICATION AND OPERATIONS:  
LAND AIRPORTS SERVING CERTAIN  
AIR CARRIERS**

*A Service of*

*Airport Operators Council International  
1220 19th St., N.W. #200  
Washington, D.C. 20036*

*Phone: (202) 293-8500  
Fax: (202) 331-1362*

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**Part 139—Certification and Operations: Land Airports Serving  
Certain Air Carriers**

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## Part 139—Certification and Operations: Land Airports Serving Certain Air Carriers

### Subpart A—General

#### § 139.1 Applicability.

This part prescribes rules governing the certification and operation of land airports which serve any scheduled or unscheduled passenger operation of an air carrier that is conducted with an aircraft having a seating capacity of more than 30 passengers. This part does not apply to airports at which air carrier passenger operations are conducted only by reason of the airport being designated as an alternate airport.

#### § 139.3 Definitions.

The following are definitions of terms as used in this part:

"AFFF" means aqueous film forming foam agent.

"Air carrier" means a person who holds or who is required to hold an air carrier operating certificate issued under this chapter while operating aircraft having a seating capacity of more than 30 passengers.

"Air carrier aircraft" means an aircraft with a seating capacity of more than 30 passengers which is being operated by an air carrier.

"Air carrier operation" means the takeoff or landing of an air carrier aircraft and includes the period of time from 15 minutes before and until 15 minutes after the takeoff or landing.

"Airport" means an area of land or other hard surface, excluding water, that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.

"Airport operating certificate" means a certificate, issued under this part, for operation of an airport serving scheduled operations of air carriers.

"Average daily departures" means the average number of scheduled departures per day of air carrier aircraft computed on the basis of the busiest 3 consecutive months of the immediately

preceding 12 calendar months; except that if the average daily departures are expected to increase, then "average daily departures" may be determined by planned rather than current activity in a manner acceptable to the Administrator.

"Certificate holder" means the holder of an airport operating certificate or a limited airport operating certificate, except that as used in subpart D "certificate holder" does not mean the holder of a limited airport operating certificate if its airport certification specifications, or this part, do not require compliance with the section in which it is used.

"Heliprot" means an airport or an area of an airport used or intended to be used for the landing and takeoff of helicopters.

"Index" means an airport ranking according to the type and quantity of aircraft rescue and firefighting equipment and agent required, determined by the length and frequency of air carrier aircraft served by the airport, as provided in subpart D of this part.

"Limited airport operating certificate" means a certificate, issued under this part, for the operation of an airport serving unscheduled operations of air carriers.

"Movement area" means the runways, taxiways, and other areas of an airport which are used for taxiing or hover taxiing, air taxiing, takeoff, and landing of aircraft, exclusive of loading ramps and aircraft parking areas.

["Regional Airports Division Manager" means the airports division manager for the FAA region in which the airport is located.]

"Safety area" means a designated area abutting the edges of a runway or taxiway intended to reduce the risk of damage to an aircraft inadvertently leaving the runway or taxiway.

"Wildlife hazard" means a potential for a damaging aircraft collision with wildlife on or near an airport. As used in this part, "wildlife" includes domestic animals while out of the control of their owners.

**§ 139.5 Standards and procedures for compliance with the certification and operations requirements of this part.**

Certain requirements prescribed by subparts C and D of this part must be complied with in a manner acceptable to the Administrator. FAA Advisory Circulars contain standards and procedures that are acceptable to the Administrator for compliance with subparts C and D. Some of these advisory circulars are referenced in specific sections of this part. The standards and procedures in them, or other standards and procedures approved by the Administrator, may be used to comply with those sections.

**Subpart B—Certification**

**§ 139.101 Certification requirements: General.**

(a) No person may operate a land airport in the United States serving any scheduled passenger operation of an air carrier while operating an aircraft having a seating capacity of more than 30 passengers without or in violation of an airport operating certificate, the applicable provisions of this part, or the approved airport certification manual for that airport.

(b) No person may operate a land airport in the United States serving any unscheduled passenger operation of an air carrier while operating an aircraft having a seating capacity of more than 30 passengers without or in violation of a limited airport operating certificate, the applicable provisions of this part, or the approved airport specifications for that airport.

**§ 139.103 Application for certificate.**

(a) Each applicant for an airport operating certificate or a limited airport operating certificate must submit an application, in a form and in the manner prescribed by the Administrator, to the [Regional Airports Division Manager]

(b) The application must be accompanied by two copies of an airport certification manual or airport certification specifications, as appropriate, prepared in accordance with subpart C of this part.

**§ 139.105 Inspection authority.**

Each applicant for an airport operating certificate or a limited airport operating certificate must allow the Administrator to make any in-

spection, including unannounced inspections, or tests to determine compliance with—

(a) The Federal Aviation Act of 1958, as amended; and

(b) The requirements of this part.

**§ 139.107 Issuance of certificate.**

(a) An applicant for an airport operating certificate is entitled to a certificate if—

(1) The provisions of § 139.103 of this subpart are met;

(2) The Administrator, after investigation, finds that the applicant is properly and adequately equipped and able to provide a safe airport operating environment in accordance with—

(i) Subpart D of this part, and

(ii) Any limitations which the Administrator finds necessary in the public interest; and

(3) The Administrator approves the airport certification manual.

(b) An applicant for a limited airport operating certificate is entitled to a certificate if—

(1) The provisions of § 139.103 of this subpart are met;

(2) The Administrator, after investigation, finds that the applicant is properly and adequately equipped and able to provide a safe airport operating environment in accordance with—

(i) The provisions of subpart D listed in section 139.213(a) of this part, and

(ii) Any other provisions of this part and any limitations which the Administrator finds necessary in the public interest; and

(3) The Administrator approves the airport certification specifications.

**§ 139.109 Duration of certificate.**

An airport operating certificate or a limited airport operating certificate issued under this part is effective until it is surrendered by the certificate holder or is suspended or revoked by the Administrator.

**§ 139.111 Exemptions.**

(a) An applicant or a certificate holder may petition the Administrator under § 11.25 Petitions for Rule Making or Exemptions, of this chapter for an exemption from any requirement of this part.

(b) An applicant or certificate holder, enplaning annually less than one-quarter of 1 percent of the total number of passengers enplaned at all air carrier airports, may petition the Administrator under § 11.25, Petitions for Rule Making or Exemptions, of this chapter for an exemption from all or part of the rescue and firefighting equipment requirements of this part on the grounds that compliance with those requirements is, or would be, unreasonably costly, burdensome, or impractical.

(c) Each petition filed under this section must be submitted in duplicate to the [Regional Airports Division Manager.]

#### § 139.113 Deviations.

In emergency conditions requiring immediate action for the protection of life or property, involving the transportation of persons by air carriers, the certificate holder may deviate from any requirement of subpart D of this part to the extent required to meet that emergency. Each certificate holder who deviates from a requirement under this paragraph shall, as soon as practicable, but not later than 14 days after the emergency, report in writing to the [Regional Airports Division Manager] stating the nature, extent, and duration of the deviation.

#### Subpart C—Airport Certification Manual and Airport Certification Specifications

##### § 139.201 Airport operating certificate: airport certification manual.

(a) An applicant for an airport operating certificate must prepare, and submit with an application, an airport certification manual for approval by the Administrator. Only those items addressing subjects required for certification under this part shall be included in the airport certification manual.

(b) Except as provided in paragraph (c) of this section, each certificate holder shall comply with an approved airport certification manual that meets the requirements of §§ 139.203 and 139.205.

(c) A certificate holder with an approved airport operations manual on December 31, 1987, may use the manual in lieu of the manual required by paragraph (b) of this section until December 31, 1988. Until the certificate holder has an approved airport certification manual, it shall comply with § 139.207 as if that section applied to its airport operations manual.

##### § 139.203 Preparation of airport certification manual.

(a) Each airport certification manual required by this part shall—

(1) Be typewritten and signed by the airport operator;

(2) Be in a form that is easy to revise;

(3) Have the date of initial approval or approval of the latest revision on each page or item in the manual and include a page revision log; and

(4) Be organized in a manner helpful to the preparation, review, and approval processes.

(b) FAA Advisory Circulars in the 139 series contain standards and procedures for the development of airport certification manuals which are acceptable to the Administrator.

##### § 139.205 Contents of airport certification manual.

(a) Each airport certification manual required by this part shall include operating procedures, facilities and equipment descriptions, responsibility assignments, and any other information needed by personnel concerned with operating the airport in order to comply with—

(1) The provisions of subpart D of this part; and

(2) Any limitations which the Administrator finds necessary in the public interest.

(b) In complying with paragraph (a) of this section, the airport certification manual must include at least the following elements:

(1) Lines of succession of airport operational responsibility.

(2) Each current exemption issued to the airport from the requirements of this part.

(3) Any limitations imposed by the Administrator.

(4) A grid map or other means of identifying locations and terrain features on and around the airport which are significant to emergency operations.

(5) The system of runway and taxiway identification.

(6) The location of each obstruction required to be lighted or marked within the airport's area of authority.

(7) A description of each movement area available for air carriers and its safety areas and each road described in § 139.319(k) that serves it.

(8) Procedures for avoidance of interruption or failure during construction work of utilities serving facilities or nav aids which support air carrier operations.

(9) Procedures for maintaining the paved areas as required by § 139.305.

(10) Procedures for maintaining the unpaved areas as required by § 139.307.

(11) Procedures for maintaining the safety areas as required by § 139.309.

(12) A description of, and procedures for maintaining, the marking and lighting systems as required by § 139.311.

(13) A snow and ice control plan as required by § 139.313.

(14) A description of the facilities, equipment, personnel, and procedures for meeting the rescue and firefighting requirements in §§ 139.317 and 139.319.

(15) Procedures for complying with the requirements of § 139.321 relating to hazardous substances and materials.

(16) A description of, and procedures for maintaining, the traffic and wind direction indicators required by § 139.323.

(17) An emergency plan as required by § 139.325.

(18) Procedures for conducting the self-inspection program as required by § 139.327.

(19) Procedures for controlling ground vehicles as required by § 139.329.

(20) Procedures for obstruction removal, marking, or lighting as required by § 139.331.

(21) Procedures for protection of nav aids as required by § 139.333.

(22) A description of public protection as required by § 139.335.

(23) A wildlife hazard management plan as required by § 139.337.

(24) Procedures for airport condition reporting as required by § 139.339.

(25) Procedures for identifying, marking, and reporting construction and other unseizable areas as required by § 139.341.

(26) Any other item which the Administrator finds is necessary in the public interest.

**§ 139.207 Maintenance of airport certification manual.**

Each holder of an airport operating certificate shall—

(a) Keep its airport certification manual current at all times;

(b) Maintain at least one complete and current copy of its approved airport certification manual on the airport;

(c) Furnish the applicable portions of the approved airport certification manual to the airport personnel responsible for their implementation;

(d) Make the copy required by paragraph (b) of this section available for inspection by the Administrator upon request; and

(e) Provide the Administrator with one complete and current copy required by paragraph (b) of this section.

**§ 139.209 Limited airport operating certificate: Airport certification specifications.**

(a) An applicant for a limited airport operating certificate must prepare, and submit with an application, airport certification specifications for approval by the Administrator. Only those items addressing subjects required for certification under this part shall be included in the airport certification specifications.

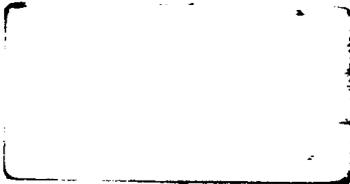
(b) Except as provided in paragraph (c) of this section, each certificate holder shall comply with the approved airport certification specifications that meet the requirements of §§ 139.211 and 139.213.

(c) A certificate holder with an approved airport operations specification on December 31, 1987, may use those specifications in lieu of the specifications required by paragraph (b) of this section until December 31, 1988. Until the certificate holder has approved airport certification specifications, it shall comply with § 139.215 as if that section applied to its airport operations specifications.

**§ 139.211 Preparation of airport certification specifications.**

(a) Each airport certification specifications required by this part shall—

(1) Be typewritten and signed by the airport operator;



- (2) Be in a form that is easy to revise;
  - (3) Have the date of initial approval or approval of the latest revision on each page or item in the specifications and include a page revision log; and
  - (4) Be organized in a manner helpful to the preparation, review, and approval processes.
- (b) FAA Advisory Circulars in the 139 series contain standards and procedures for the development of airport certification specifications which are acceptable to the Administrator.

**§ 139.213 Contents of airport certification specifications.**

(a) The airport certification specifications required by this part shall include operating procedures, facilities and equipment descriptions, responsibility assignments, and any other information needed by personnel concerned with operating the airport in order to comply with—

(1) The following provisions of subpart D of this part:

- (i) § 139.301 Inspection authority.
- (ii) § 139.303 Personnel.
- (iii) § 139.305 Paved areas.
- (iv) § 139.307 Unpaved areas.
- (v) § 139.309 Safety areas.
- (vi) § 139.311 Marking and lighting.
- (vii) § 139.339 Airport condition reporting.

(2) Any other provisions of subpart D of this part, and any limitations, which the Administrator finds necessary in the public interest.

(b) In complying with paragraph (a) of this section, the airport certification specifications shall include at least the following elements:

- (1) Lines of succession of airport operational responsibility.
- (2) Each current exemption issued to the airport from the requirements of this part.
- (3) Any limitations imposed by the Administrator.
- (4) The system of runway and taxiway identification.
- (5) The location of each obstruction required to be lighted or marked within the airport's area of authority.

(6) A description of each movement area available for air carriers and its safety areas.

(7) Procedures for maintaining the paved areas as required by § 139.305.

(8) Procedures for maintaining the unpaved areas as required by § 139.307.

(9) Procedures for maintaining the safety areas as required by § 139.309.

(10) A description of, and procedures for maintaining, the marking and lighting systems as required by § 139.311.

(11) A description of the facilities, equipment, personnel, and procedures for emergency response to aircraft rescue and firefighting needs.

(12) Procedures for safety in storing and handling of hazardous substances and materials.

(13) A description of, and procedures for maintaining, any traffic and wind direction indicators on the airport.

(14) A description of the procedures used for conducting self-inspections of the airport.

(15) Procedures and responsibilities for airport condition reporting as required by § 139.339.

(16) Procedures for compliance with any other provisions of subpart D of this part, and any limitations, which the Administrator finds necessary in the public interest.

**§ 139.215 Maintenance of airport certification specifications.**

Each holder of a limited airport operating certificate shall—

(a) Keep its airport certification specifications current at all times;

(b) Maintain at least one complete and current copy of its approved airport certification specifications on the airport;

(c) Furnish the applicable portions of the approved airport certification specifications to the airport personnel responsible for their implementation;

(d) Make the copy required by paragraph (b) of this section available for inspection by the Administrator upon request; and

(e) Provide the Administrator with one complete and current copy required by paragraph (b) of this section.



**§ 139.217 Amendment of airport certification manual or airport certification specifications.**

(a) The [Regional Airports Division Manager] may amend any airport certification manual or any airport certification specifications approved under this part, either—

(1) Upon application by the certificate holder; or

(2) On the [Regional Airports Division Manager's] own initiative if the [Regional Airports Division Manager] determines that safety in air transportation or air commerce and the public interest require the amendment.

(b) An applicant for an amendment to its airport certification manual or its airport certification specifications shall file its application with the [Regional Airports Division Manager] at least 30 days before the proposed effective date of the amendment, unless a shorter filing period is allowed by that office.

(c) At any time within 30 days after receiving a notice of refusal to approve the application for amendment, the certificate holder may petition the Administrator to reconsider the refusal to amend.

(d) In the case of amendments initiated by the [Regional Airports Division Manager], the office notifies the certificate holder of the proposed amendment, in writing, fixing a reasonable period (but not less than 7 days) within which the certificate holder may submit written information, views, and arguments on the amendment. After considering all relevant material presented, the [Regional Airports Division Manager] notifies the certificate holder of any amendment adopted or rescinds the notice. The amendment becomes effective not less than 30 days after the certificate holder receives notice of it, except that prior to the effective date the certificate holder may petition the Administrator to reconsider the amendment, in which case its effective date is stayed pending a decision by the Administrator.

(e) Notwithstanding the provisions of paragraph (d) of this section, if the [Regional Airports Division Manager] finds that there is an emergency requiring immediate action with respect to safety in air transportation or air commerce that makes the procedures in this paragraph impractical or contrary to the public interest, the [Regional Airports Division Manager] may issue an amendment, effective

without stay on the date the certificate holder receives notice of it. In such a case, the [Regional Airports Division Manager] incorporates the finding of the emergency, and a brief statement of the reasons for the finding, in the notice of the amendment. Within 30 days after the issuance of such an emergency amendment, the certificate holder may petition the Administrator to reconsider either the finding of an emergency or the amendment itself or both. This petition does not automatically stay the effectiveness of the emergency amendment.

**Subpart D—Operations**

**§ 139.301 Inspection authority.**

Each certificate holder shall allow the Administrator to make any inspections, including unannounced inspections, or tests to determine compliance with this part.

**§ 139.303 Personnel.**

Each certificate holder shall maintain sufficient qualified personnel to comply with the requirements of its airport certification manual or airport certification specifications and the applicable rules of this part.

**§ 139.305 Paved areas.**

(a) Each certificate holder shall maintain, and promptly repair the pavement of, each runway, taxiway, loading ramp, and parking area on the airport which is available for air carrier use as follows:

(1) The pavement edges shall not exceed 3 inches difference in elevation between abutting pavement sections and between full strength pavement and abutting shoulders.

(2) The pavement shall have no hole exceeding 3 inches in depth nor any hole the slope of which from any point in the hole to the nearest point at the lip of the hole is 45 degrees or greater as measured from the pavement surface plane, unless, in either case, the entire area of the hole can be covered by a 5-inch diameter circle.

(3) The pavement shall be free of cracks and surface variations which could impair directional control of air carrier aircraft.

(4) Except as provided in paragraph (b) of this section, mud, dirt, sand, loose aggregate, debris, foreign objects, rubber deposits, and other contaminants shall be removed promptly and as completely as practicable.

(5) Except as provided in paragraph (b) of this section, any chemical solvent that is used to clean any pavement area shall be removed as soon as possible, consistent with the instructions of the manufacturer of the solvent.

(6) The pavement shall be sufficiently drained and free of depressions to prevent ponding that obscures markings or impairs safe aircraft operations.

(7) Paragraphs (a)(4) and (a)(5) of this section do not apply to snow and ice accumulations and their control, including the associated use of materials such as sand and deicing solutions.

(8) FAA Advisory Circulars in the 150 series contain standards and procedures for the maintenance and configuration of paved areas which are acceptable to the Administrator.

**§ 139.307 Unpaved areas.**

(a) Each certificate holder shall maintain and promptly repair the surface of each gravel, turf, or other unpaved runway, taxiway, or loading ramp and parking area on the airport which is available for air carrier use as follows:

(1) No slope from the edge of the full-strength surfaces downward to the existing terrain shall be steeper than 2:1.

(2) The full-strength surfaces shall have adequate crown or grade to assure sufficient drainage to prevent ponding.

(3) The full-strength surfaces shall be adequately compacted and sufficiently stable to prevent rutting by aircraft, or the loosening or buildup of surface material which could impair directional control of aircraft or drainage.

(4) The full-strength surfaces must have no holes or depressions which exceed 3 inches in depth and are of a breadth capable of impairing directional control or causing damage to an aircraft.

(5) Debris and foreign objects shall be promptly removed from the surface.

(b) Standards and procedures for the maintenance and configuration of unpaved full-strength surfaces shall be included in the airport certification manual or the airport certification specifications, as appropriate, for compliance with this section.

**§ 139.309 Safety areas.**

(a) To the extent practicable, each certificate holder shall provide and maintain for each run-

way and taxiway which is available for air carrier use—

(1) If the runway or taxiway had a safety area on December 31, 1987, and if no reconstruction or significant expansion of the runway or taxiway was begun on or after January 1, 1988, a safety area of at least the dimensions that existed on December 31, 1987; or

(2) If construction, reconstruction, or significant expansion of the runway or taxiway began on or after January 1, 1988, a safety area which conforms to the dimensions acceptable to the Administrator at the time construction, reconstruction, or expansion began.

(b) Each certificate holder shall maintain its safety areas as follows:

(1) Each safety area shall be cleared and graded, and have no potentially hazardous ruts, humps, depressions, or other surface variations.

(2) Each safety area shall be drained by grading or storm sewers to prevent water accumulation.

(3) Each safety area shall be capable under dry conditions of supporting snow removal equipment, and aircraft rescue and firefighting equipment, and supporting the occasional passage of aircraft without causing major damage to the aircraft.

(4) No object may be located in any safety area, except for objects that need to be located in a safety area because of their function. These objects shall be constructed, to the extent practical, on frangibly mounted structures of the lowest practical height with the frangible point no higher than 3 inches above grade.

(c) FAA Advisory Circulars in the 150 series contain standards and procedures for the configuration and maintenance of safety areas acceptable to the Administrator.

**§ 139.311 Marking and lighting.**

(a) Each certificate holder shall provide and maintain at least the following marking systems for air carrier operations on the airport:

- (1) Runway markings meeting the specifications for the approach with the lowest minimums authorized for each runway.
- (2) Taxiway centerline and edge markings.



- (3) Signs identifying taxiing routes on the movement area.
- (4) Runway holding position markings and signs.
- (5) ILS critical area markings and signs.
- (b) Each certificate holder shall provide and maintain, when the airport is open during hours of darkness or during conditions below VFR minimums, at least the following lighting systems for air carrier operations on the airport:
- (1) Runway lighting meeting the specifications for the approach with the lowest minimums authorized for each runway.
  - (2) One of the following taxiway lighting systems:
    - (i) Centerline lights.
    - (ii) Centerline reflectors.
    - (iii) Edge lights.
    - (iv) Edge reflectors.
  - (3) An airport beacon.
  - (4) Approach lighting meeting the specifications for the approach with the lowest minimums authorized for each runway, unless otherwise provided and maintained by the FAA or another agency.
  - (5) Obstruction marking and lighting, as appropriate, on each object within its authority which constitutes an obstruction under Part 77 of this chapter. However, this lighting and marking is not required if it is determined to be unnecessary by an FAA aeronautical study.
- (c) Each certificate holder shall properly maintain each marking or lighting system installed on the airport which is owned by the certificate holder. As used in this section, to "properly maintain" includes: to clean, replace, or repair any faded, missing, or nonfunctional item of lighting; to keep each item unobscured and clearly visible; and to ensure that each item provides an accurate reference to the user.
- (d) Each certificate holder shall ensure that all lighting on the airport, including that for aprons, vehicle parking areas, roadways, fuel storage areas, and buildings, is adequately adjusted or shielded to prevent interference with air traffic control and aircraft operations.
- (e) FAA Advisory Circulars in the 150 series contain standards and procedures for equipment, material, installation, and maintenance of lighting systems and marking listed in this section which are acceptable to the Administrator.
- (f) Notwithstanding paragraphs (a) and (b) of this section, a certificate holder is not required to provide the identified marking systems or

lighting systems until January 1, 1991. Each certificate holder shall maintain each marking system and lighting system that meets paragraphs (a) and (b) of this section.]

#### § 139.313 Snow and ice control.

- (a) Each certificate holder whose airport is located where snow and icing conditions regularly occur shall prepare, maintain, and carry out a snow and ice control plan.
- (b) The snow and ice control plan required by this section shall include instructions and procedures for—
- (1) Prompt removal or control, as completely as practical, of snow, ice, and slush on each movement area;
  - (2) Positioning snow off of movement area surfaces so that all air carrier aircraft propellers, engine pods, rotors, and wingtips will clear any snowdrift and snowbank as the aircraft's landing gear traverses any full strength portion of the movement area;
  - (3) Selection and application of approved materials for snow and ice control to ensure that they adhere to snow and ice sufficiently to minimize engine ingestion;
  - (4) Timely commencement of snow and ice control operations; and
  - (5) Prompt notification, in accordance with § 139.339, of all air carriers using the airport when any portion of the movement area normally available to them is less than satisfactorily cleared for safe operation by their aircraft.
- (c) FAA Advisory Circulars in the 150 series contain standards for snow and ice control equipment, materials, and procedures for snow and ice control which are acceptable to the Administrator.

#### § 139.315 Aircraft rescue and firefighting: Index determination.

- (a) An Index is required by paragraph (c) of this section for each certificate holder. The Index is determined by a combination of—
- (1) The length of air carrier aircraft expressed in groups; and
  - (2) Average daily departures of air carrier aircraft.
- (b) For the purpose of Index determination, air carrier aircraft lengths are grouped as follows:
- (1) Index A includes aircraft less than 90 feet in length.
  - (2) Index B includes aircraft at least 90 feet but less than 126 feet in length.

- (3) Index C includes aircraft at least 126 feet but less than 159 feet in length.
- (4) Index D includes aircraft at least 159 feet but less than 200 feet in length.
- (5) Index E includes aircraft at least 200 feet in length.

(c) Except as provided in § 139.319(c), the Index required by § 139.319 is determined as follows:

- (1) If there are five or more average daily departures of air carrier aircraft in a single Index group serving that airport, the longest Index group with an average of 5 or more daily departures is the Index required for the airport.
- (2) If there are less than five average daily departures of air carrier aircraft in a single Index group serving that airport, the next lower Index from the longest Index group with air carrier aircraft in it is the Index required for the airport. The minimum designated Index shall be Index A.

**§ 139.317 Aircraft rescue and firefighting: Equipment and agents.**

The following rescue and firefighting equipment and agents are the minimum required for the Indexes referred to in § 139.315:

- (a) *Index A:* One vehicle carrying at least—
  - (1) 500 pounds of sodium-based dry chemical or halon 1211; or
  - (2) 450 pounds of potassium-based dry chemical and water with a commensurate quantity of AFFF to total 100 gallons, for simultaneous dry chemical and AFFF foam application.
- (b) *Index B:* Either of the following:
  - (1) One vehicle carrying at least 500 pounds of sodium-based dry chemical or halon 1211, and 1,500 gallons of water, and the commensurate quantity of AFFF for foam production.
  - (2) Two vehicles—
    - (i) One vehicle carrying the extinguishing agents as specified in paragraph (a)(1) or (2) of this section; and
    - (ii) One vehicle carrying an amount of water and the commensurate quantity of AFFF so that the total quantity of water for foam production carried by both vehicles is at least 1,500 gallons.

(c) *Index C:* Either of the following:

- (1) Three vehicles—
  - (i) One vehicle carrying the extinguishing agents as specified in paragraph (a)(1) or (2) of this section; and
  - (ii) Two vehicles carrying an amount of water and the commensurate quantity of AFFF so that the total quantity of water for foam production carried by all three vehicles is at least 3,000 gallons.
- (2) Two vehicles—
  - (i) One vehicle carrying the extinguishing agents as specified in paragraph (a)(1) of this section; and
  - (ii) One vehicle carrying water and the commensurate quantity of AFFF so that the total quantity of water for foam production carried by both vehicles is at least 3,000 gallons.

(d) *Index D:* Three vehicles—

- (1) One vehicle carrying the extinguishing agents as specified in paragraph (a)(1) or (2) of this section; and
- (2) Two vehicles carrying an amount of water and the commensurate quantity of AFFF so that the total quantity of water for foam production carried by all three vehicles is at least 4,000 gallons.

(e) *Index E:* Three vehicles—

- (1) One vehicle carrying the extinguishing agents as specified in paragraph (a)(1) or (2) of this section; and
- (2) Two vehicles carrying an amount of water and the commensurate quantity of AFFF so that the total quantity of water for foam production carried by all three vehicles is at least 6,000 gallons.

(f) Notwithstanding the provisions of paragraphs (a) through (e) of this section, any certificate holder whose vehicles met the requirements of this part for quantity and type of extinguishing agent on December 31, 1987, may comply with the Index requirements of this section by carrying extinguishing agents to the full capacity of those vehicles. Whenever any of those vehicles is replaced or rehabilitated, the capacity of the replacement or rehabilitated vehicle shall be sufficient to comply with the requirements of the required Index.

(6) *Foam discharge capacity.* Each aircraft rescue and firefighting vehicle used to comply with Index B, C, D, or E requirements with a capacity of at least 500 gallons of water for foam production shall be equipped with a turret. Vehicle turret discharge capacity shall be as follows:

(1) Each vehicle with a minimum rated vehicle water tank capacity of at least 500 gallons but less than 2,000 gallons shall have a turret discharge rate of at least 500 gallons per minute but not more than 1,000 gallons per minute.

(2) Each vehicle with a minimum rated vehicle water tank capacity of at least 2,000 gallons shall have a turret discharge rate of at least 600 gallons per minute but not more than 1,200 gallons per minute.

(3) Notwithstanding the requirements of paragraph (g) of this section, any certificate holder whose aircraft rescue and firefighting vehicles are not equipped with turrets or do not meet the discharge capacity required in this section, but otherwise met the requirements of this part on December 31, 1987, need not comply with paragraph (g) of this section for a particular vehicle until that vehicle is replaced or rehabilitated.

(h) *Dry chemical and halon 1211 discharge capacity.* Each aircraft rescue and firefighting vehicle which is required to carry dry chemical or halon 1211 for compliance with the index requirements of this section must meet one of the following minimum discharge rates for the equipment installed:

(1) Dry chemical or halon 1211 through a hand line, 5 pounds per second.

(2) Dry chemical or halon 1211 through a turret, 16 pounds per second.

(i) *Extinguishing agent substitutions.* The following extinguishing agent substitutions may be made:

(1) Protein or fluoroprotein foam concentrates may be substituted for AFFF. When either of these substitutions is selected, the volume of water to be carried for the substitute foam production shall be calculated by multiplying the volume of water required for AFFF by the factor 1.5.

(2) Sodium or potassium-based dry chemical or halon 1211 may be substituted for AFFF. Up to 30 percent of the amount of water specified for AFFF production may be replaced by dry chemical or halon 1211, except that for airports where such extreme climatic conditions exist that water is either unmanageable or unobtainable, as in arctic or desert regions, up to 100 percent of the required water may be replaced by dry chemical or halon 1211. When this substitution is selected, 12.7 pounds of dry chemical or halon 1211 shall be substituted for each gallon of water used for AFFF foam production.

(3) Sodium or potassium-based dry chemical or halon 1211 may be substituted for protein or fluoroprotein foam. When this substitution is selected, 8.4 pounds of dry chemical or halon 1211 shall be substituted for one gallon of water for protein or fluoroprotein foam production.

(4) AFFF may be substituted for dry chemical or halon 1211. For airports where meteorological conditions, such as consistently high winds and precipitation, would frequently prevent the effective use of dry chemical or halon 1211, up to 50 percent of these agents may be replaced by water for AFFF production. When this substitution is selected, one gallon of water for foam production with the commensurate quantity of AFFF shall be substituted for 12.7 pounds of dry chemical or halon 1211.

(5) Potassium-based dry chemical may be substituted for sodium-based dry chemical. Where 500 pounds of sodium-based dry chemical is specified, 450 pounds of potassium-based dry chemical may be substituted.

(6) Other extinguishing agent substitutions acceptable to the Administrator may be made in amounts that provide equivalent firefighting capability.

(j) In addition to the quantity of water required, each vehicle required to carry AFFF shall carry AFFF in an appropriate amount to mix with twice the water required to be carried by the vehicle.

(k) FAA Advisory Circulars in the 150 series contain standards and procedures for ARFF equipment and agents which are acceptable to the Administrator.

**§ 139.319 Aircraft rescue and firefighting: Operational requirements.**

(a) Except as provided in paragraph (c) of this section, each certificate holder shall provide on the airport, during air carrier operations at the airport, at least the rescue and firefighting capability specified for the Index required by § 139.317.

(b) *Increase in Index.* Except as provided in paragraph (c) of this section, if an increase in the average daily departures or the length of air carrier aircraft results in an increase in the Index required by paragraph (a) of this section, the certificate holder shall comply with the increased requirements.

(c) *Reduction in rescue and firefighting.* During air carrier operations with only aircraft shorter than the Index aircraft group required by paragraph (a) of this section, the certificate holder may reduce the rescue and firefighting to a lower level corresponding to the Index group of the longest air carrier aircraft being operated.

(d) Any reduction in the rescue and firefighting capability from the Index required by paragraph (a) of this section in accordance with paragraph (c) of this section shall be subject to the following conditions:

(1) Procedures for, and the persons having the authority to implement, the reductions must be included in the airport certification manual.

(2) A system and procedures for recall of the full aircraft rescue and firefighting capability must be included in the airport certification manual.

(3) The reductions may not be implemented unless notification to air carriers is provided in the Airport/Facility Directory or Notices to Airmen (NOTAM), as appropriate, and by direct notification of local air carriers.

(e) *Vehicle communications.* Each vehicle required under § 139.317 shall be equipped with two-way voice radio communications which provides for contact with at least—

- (1) Each other required emergency vehicle;
- (2) The air traffic control tower, if it is located on the airport; and
- (3) Other stations, as specified in the airport emergency plan.

(f) *Vehicle marking and lighting.* Each vehicle required under § 139.317 shall—

- (1) Have a flashing or rotating beacon; and
- (2) Be painted or marked in colors to enhance contrast with the background environment and optimize daytime and nighttime visibility and identification.

(g) FAA Advisory Circulars in the 150 series contain standards for painting, marking and lighting vehicles used on airports which are acceptable to the Administrator.

(h) *Vehicle readiness.* Each vehicle required under § 139.317 shall be maintained as follows:

(1) The vehicle and its systems shall be maintained so as to be operationally capable of performing the functions required by this subpart during all air carrier operations.

(2) If the airport is located in a geographical area subject to prolonged temperatures below 33 degrees Fahrenheit, the vehicle shall be provided with cover or other means to ensure equipment operation and discharge under freezing conditions.

(3) Any required vehicle which becomes inoperative to the extent that it cannot perform as required by § 139.319 (h)(1) shall be replaced immediately with equipment having at least equal capabilities. If replacement equipment is not available immediately, the certificate holder shall so notify the [Regional Airports Division Manager] and each air carrier using the airport in accordance with § 139.339. If the required Index level of capability is not restored within 48 hours, the airport operator, unless otherwise authorized by the Administrator, shall limit air carrier operations on the airport to those compatible with the Index corresponding to the remaining operative rescue and firefighting equipment.

(i) *Response requirements.*

(1) Each certificate holder, with the airport rescue and firefighting equipment required under this part and the number of trained personnel which will assure an effective operation, shall—

- (i) Respond to each emergency during periods of air carrier operations; and
- (ii) When requested by the Administrator, demonstrate compliance with the response requirements specified in this section.

(2) The response required by paragraph (i)(1)(ii) of this section shall achieve the following performance:

(i) Within 3 minutes from the time of the alarm, at least one required airport rescue and firefighting vehicle shall reach the midpoint of the farthest runway serving air carrier aircraft from its assigned post, or reach any other specified point of comparable distance on the movement area which is available to air carriers, and begin application of foam, dry chemical, or halon 1211.

(ii) Within 4 minutes from the time of alarm, all other required vehicles shall reach the point specified in paragraph (i)(2)(i) of this section from their assigned post and begin application of foam, dry chemical, or halon 1211.

(j) *Personnel.* Each certificate holder shall ensure the following:

(1) All rescue and firefighting personnel are equipped in a manner acceptable to the Administrator with protective clothing and equipment needed to perform their duties.

(2) All rescue and firefighting personnel are properly trained to perform their duties in a manner acceptable to the Administrator. The training curriculum shall include initial and recurrent instruction in at least the following areas:

- (i) Airport familiarization.
- (ii) Aircraft familiarization.
- (iii) Rescue and firefighting personnel safety.
- (iv) Emergency communications systems on the airport, including fire alarms.
- (v) Use of the fire hoses, nozzles, turrets, and other appliances required for compliance with this part.
- (vi) Application of the types of extinguishing agents required for compliance with this part.
- (vii) Emergency aircraft evacuation assistance.
- (viii) Firefighting operations.
- (ix) Adapting and using structural rescue and firefighting equipment for aircraft rescue and firefighting.
- (x) Aircraft cargo hazards.
- (xi) Familiarization with firefighters' duties under the airport emergency plan.

(3) All rescue and firefighting personnel participate in at least one live-fire drill every 12 months.

(4) [After January 1, 1989, at least one of the required personnel on duty during air carrier operations has been trained and is current in basic emergency medical care.] This training shall include 40 hours covering at least the following areas:

- (i) Bleeding.
- (ii) Cardiopulmonary resuscitation.
- (iii) Shock.
- (iv) Primary patient survey.
- (v) Injuries to the skull, spine, chest, and extremities.
- (vi) Internal injuries.
- (vii) Moving patients.
- (viii) Burns.
- (ix) Triage.

(5) Sufficient rescue and firefighting personnel are available during all air carrier operations to operate the vehicles, meet the response times, and meet the minimum agent discharge rates required by this part.

(6) Procedures and equipment are established and maintained for alerting rescue and firefighting personnel by siren, alarm, or other means acceptable to the Administrator, to any existing or impending emergency requiring their assistance.

(k) *Emergency access roads.* Each certificate holder shall ensure that roads which are designated for use as emergency access roads for aircraft rescue and firefighting vehicles are maintained in a condition that will support those vehicles during all-weather conditions.

**§ 139.321 Handling and storing of hazardous substances and materials.**

(a) Each certificate holder which acts as a cargo handling agent shall establish and maintain procedures for the protection of persons and property on the airport during the handling and storing of any material regulated by the Hazardous Materials Regulations (49 CFR Part 171, et seq.), that is, or is intended to be, transported by air. These procedures shall provide for at least the following:

- (1) Designated personnel to receive and handle hazardous substances and materials.

(2) Assurance from the shipper that the cargo can be handled safely, including any special handling procedures required for safety.

(3) Special areas for storage of hazardous materials while on the airport.

(4) Each certificate holder shall establish and maintain standards acceptable to the Administrator for protecting against fire and explosions during storing, dispensing, and otherwise handling the lubricants, and oxygen (other than articles and materials that are, or are intended to be, aircraft cargo) on the airport. These standards shall cover facilities, procedures, and personnel training and shall address at least the following:

(1) Grounding and bonding.

(2) Public protection.

(3) Control of access to storage areas.

(4) Fire safety in fuel farm and storage areas.

(5) Fire safety in mobile fuelers, fueling pits, and fueling cabinets.

(6) After January 1, 1989, training of fueling personnel in fire safety in accordance with paragraph (e) of this section.

(7) The fire code of the public body having jurisdiction over the airport.

(5) Each certificate holder shall, as a fueling agent, comply with and, except as provided in paragraph (h) of this section, require all other fueling agents operating on the airport to comply with the standards established under paragraph (4) of this section and shall perform reasonable surveillance of all fueling activities on the airport with respect to those standards.

(d) Each certificate holder shall inspect the physical facilities of each airport tenant fueling agent at least once every 3 months for compliance with paragraph (b) of this section and maintain a record of that inspection for at least 12 months. The certificate holder may use an independent organization to perform this inspection if—

(1) It is acceptable by the Administrator; and

(2) It prepares a record of its inspection sufficiently detailed to assure the certificate holder and the FAA that the inspection is adequate.

(e) The training required in paragraph (b)(6) of this section shall include at least the following:

(1) At least one supervisor with each fueling agent shall have completed an aviation fuel

training course in fire safety which is acceptable to the Administrator.

(2) All other employees who fuel aircraft, accept fuel shipments, or otherwise handle fuel shall receive at least on-the-job training in fire safety from the supervisor trained in accordance with paragraph (e)(1) of this section.

(f) Each certificate holder shall obtain certification once a year from each airport tenant fueling agent that the training required by paragraph (e) of this section has been accomplished.

(g) Unless otherwise authorized by the Administrator, each certificate holder shall require each tenant fueling agent to take immediate corrective action whenever the certificate holder becomes aware of noncompliance with a standard required by paragraph (b) of this section. The certificate holder shall notify the appropriate FAA [Regional Airports Division Manager] immediately when noncompliance is discovered and corrective action cannot be accomplished within a reasonable period of time.

(h) A certificate holder need not require an air carrier operating under Part 121 or Part 135 of this chapter to comply with the standards required by this section.

(i) FAA Advisory Circulars in the 150 series contain standards and procedures for the handling and storage of hazardous substances and materials which are acceptable to the Administrator.

#### § 135.323 Traffic and wind direction indicators.

Each certificate holder shall provide the following on its airport:

(a) A wind cone that provides surface wind direction information visually to pilots. For each airport in a terminal control area, supplemental wind cones shall be installed at each runway end or at least at one point visible to the pilot while on final approach and prior to takeoff. If the airport is open for air carrier operations during hours of darkness, the wind direction indicators must be lighted.

(b) For airports serving any air carrier operation when there is no control tower operating, a segmented circle around one wind cone and a landing strip and traffic pattern indicator for each runway with a right-hand traffic pattern.

#### § 135.325 Airport emergency plan.

(a) Each certificate holder shall develop and maintain an airport emergency plan designed

to minimize the possibility and extent of personal injury and property damage on the airport in an emergency. The plan must include—

- (1) Procedures for prompt response to all of the emergencies listed in paragraph (b) of this section, including a communications network; and
  - (2) Sufficient detail to provide adequate guidance to each person who must implement it.
- (b) The plan required by this section must contain instructions for response to—
- (1) Aircraft incidents and accidents;
  - (2) Bomb incidents, including designated parking areas for the aircraft involved;
  - (3) Structural fires;
  - (4) Natural disasters;
  - (5) Radiological incidents;
  - (6) Sabotage, hijack incidents, and other unlawful interference with operations;
  - (7) Failure of power for movement area lighting; and
  - (8) Water rescue situations.
- (c) The plan required by this section must address or include—
- (1) To the extent practicable, provisions for medical services including transportation and medical assistance for the maximum number of persons that can be carried on the largest air carrier aircraft that the airport reasonably can be expected to serve;
  - (2) The name, location, telephone number, and emergency capability of each hospital and other medical facility, and the business address and telephone number of medical personnel on the airport or in the communities it serves, agreeing to provide medical assistance or transportation;
  - (3) The name, location, and telephone number of each rescue squad, ambulance service, military installation, and government agency on the airport or in the communities it serves, that agrees to provide medical assistance or transportation;
  - (4) An inventory of surface vehicles and aircraft that the facilities, agencies, and personnel included in the plan under paragraphs (c)(2) and (c)(3) of this section will provide to transport injured and deceased persons to locations on the airport and in the communities it serves;

(5) Each hangar or other building on the airport or in the communities it serves that will be used to accommodate uninjured, injured, and deceased persons;

(6) Crowd control, specifying the name and location of each safety or security agency that agrees to provide assistance for the control of crowds in the event of an emergency on the airport; and

(7) The removal of disabled aircraft including to the extent practical the name, location and telephone numbers of agencies with aircraft removal responsibilities or capabilities.

(d) The plan required by this section must provide for—

(1) The marshaling, transportation, and care of ambulatory injured and uninjured accident survivors;

(2) The removal of disabled aircraft;

(3) Emergency alarm systems; and

(4) Coordination of airport and control tower functions relating to emergency actions.

(e) The plan required by this section shall contain procedures for notifying the facilities, agencies, and personnel who have responsibilities under the plan of the location of an aircraft accident, the number of persons involved in that accident, or any other information necessary to carry out their responsibilities, as soon as that information is available.

(f) The plan required by this section shall contain provisions, to the extent practicable, for the rescue of aircraft accident victims from significant bodies of water or marsh lands adjacent to the airport which are crossed by the approach and departure flight paths of air carriers. A body of water or marsh land is significant if the area exceeds one-quarter square mile and cannot be traversed by conventional land rescue vehicles. To the extent practicable, the plan shall provide for rescue vehicles with a combined capacity for handling the maximum number of persons that can be carried on board the largest air carrier aircraft that the airport reasonably can be expected to serve.

(g) Each certificate holder shall—

- (1) Coordinate its plan with law enforcement agencies, rescue and fire fighting agencies, medical personnel and organizations, the principal tenants at the airport, and all other persons who have responsibilities under the plan;

(2) To the extent practicable, provide for participation by all facilities, agencies, and personnel specified in paragraph (g)(1) of this section in the development of the plan;

(3) Ensure that all airport personnel having duties and responsibilities under the plan are familiar with their assignments and are properly trained;

(4) At least once every 12 months, review the plan with all of the parties with whom the plan is coordinated as specified in paragraph (g)(1) of this section, to ensure that all parties know their responsibilities and that all of the information in the plan is current; and

(5) Hold a full-scale airport emergency plan exercise at least once every 3 years.

(6) FAA Advisory Circulars in the 150 series contain standards and procedures for the development of an airport emergency plan which are acceptable to the Administrator.

**§ 139.327 Self-inspection program.**

(a) Each certificate holder shall inspect the airport to assure compliance with this subpart—

(1) Daily, except as otherwise required by the airport certification manual or airport certification specifications;

(2) When required by any unusual condition such as construction activities or meteorological conditions that may affect safe air carrier operations; and

(3) Immediately after an accident or incident.

(b) Each certificate holder shall provide the following:

(1) Equipment for use in conducting safety inspections of the airport;

(2) Procedures, facilities, and equipment for reliable and rapid dissemination of information between airport personnel and its air carriers;

(3) Procedures to ensure that qualified inspection personnel perform the inspections; and

(4) A reporting system to ensure prompt correction of unsafe airport conditions noted during the inspection.

(c) Each certificate holder shall prepare and keep for at least 6 months, and make available for inspection by the Administrator on request, a record of each inspection prescribed by this section, showing the conditions found and all corrective actions taken.

(d) FAA Advisory Circulars in the 150 series contain standards and procedures for the conduct of airport self inspections which are acceptable to the Administrator.

**§ 139.329 Ground vehicles.**

Each certificate holder shall—

(a) Limit access to movement areas and safety areas only to those ground vehicles necessary for airport operations;

(b) Provide adequate procedures for the safe and orderly access to, and operation on, the movement area and safety areas by ground vehicles;

(c) When an air traffic control tower is in operation, ensure that each ground vehicle operating on the movement area is controlled by one of the following:

(1) Two-way radio communications between each vehicle and the tower;

(2) An escort vehicle with two-way radio communications with the tower to accompany any vehicle without a radio; or

(3) Measures acceptable to the Administrator for controlling vehicles, such as signs, signals, or guards, when it is not operationally practical to have two-way radio communications with the vehicle or an escort vehicle;

(d) When an air traffic control tower is not in operation, provide adequate procedures to control ground vehicles on the movement area through prearranged signs or signals;

(e) Ensure that each employee, tenant or contractor who operates a ground vehicle or any portion of the airport which has access to the movement area is familiar and complies with the airport's rules and procedures for the operation of ground vehicles; and

(f) On request by the Administrator, make available for inspection any record of accidents or incidents on the movement areas involving air carrier aircraft and/or ground vehicles.

**§ 139.331 Obstructions.**

Each certificate holder shall ensure that each object in each area within its authority which exceeds any of the heights or penetrates the imaginary surfaces described in Part 77 of this chapter is either removed, marked, or lighted. However, removal, marking, and lighting is not required if it is determined to be unnecessary by an FAA aeronautical study.

**§ 139.333 Protection of navigaids.**

Each certificate holder shall—

- (a) Prevent the construction of facilities on its airport that, as determined by the Administrator, would derogate the operation of an electronic or visual navigaid and air traffic control facilities on the airport;
- (b) Protect, or if the owner is other than the certificate holder, assist in protecting, all navigaids on its airport against vandalism and theft; and
- (c) Prevent, insofar as it is within the airport's authority, interruption of visual and electronic signals of navigaids.

**§ 139.335 Public protection.**

- (a) Each certificate holder shall provide—
  - (1) Safeguards acceptable to the Administrator to prevent inadvertent entry to the movement area by unauthorized persons or vehicles; and
  - (2) Reasonable protection of persons and property from aircraft blast.
- (b) Fencing meeting the requirements of Part 107 of this chapter in areas subject to that part is acceptable for meeting the requirements of paragraph (a)(1) of this section.

**§ 139.337 Wildlife hazard management.**

- (a) Each certificate holder shall provide for the conduct of an ecological study, acceptable to the Administrator, when any of the following events occurs on or near the airport:
  - (1) An air carrier aircraft experiences a multiple bird strike or engine ingestion.
  - (2) An air carrier aircraft experiences a damaging collision with wildlife other than birds.
  - (3) Wildlife of a size or in numbers capable of causing an event described in paragraph (a)(1) or (2) of this section is observed to have access to any airport flight pattern or movement area.
- (b) The study required in paragraph (a) of this section shall contain at least the following:
  - (1) Analysis of the events which prompted the study.
  - (2) Identification of the species, numbers, locations, local movements, and daily and seasonal occurrences of wildlife observed.
  - (3) Identification and location of features on and near the airport that attract wildlife.
  - (4) Description of the wildlife hazard to air carrier operations.

(c) The study required by paragraph (a) of this section shall be submitted to the Administrator, who determines whether or not there is a need for a wildlife hazard management plan. In reaching this determination, the Administrator considers—

- (1) The ecological study;
  - (2) The aeronautical activity at the airport;
  - (3) The views of the certificate holder;
  - (4) The views of the airport users; and
  - (5) Any other factors bearing on the matter of which the Administrator is aware.
- (d) When the Administrator determines that a wildlife hazard management plan is needed, the certificate holder shall formulate and implement a plan using the ecological study as a basis. The plan shall—
- (1) Be submitted to, and approved by, the Administrator prior to implementation; and
  - (2) Provide measures to alleviate or eliminate wildlife hazards to air carrier operations.
- (e) The plan shall include at least the following:
  - (1) The persons who have authority and responsibility for implementing the plan.
  - (2) Priorities for needed habitat modification and changes in land use identified in the ecological study, with target dates for completion.
  - (3) Requirements for and, where applicable, copies of local, state, and Federal wildlife control permits.
  - (4) Identification of resources to be provided by the certificate holder for implementation of the plan.
  - (5) Procedures to be followed during air carrier operations, including at least—
    - (i) Assignment of personnel responsibilities for implementing the procedures;
    - (ii) Conduct of physical inspections of the movement area and other areas critical to wildlife hazard management sufficiently in advance of air carrier operations to allow time for wildlife controls to be effective;
    - (iii) Wildlife control measures; and
    - (iv) Communication between the wildlife control personnel and any air traffic control tower in operation at the airport.
  - (6) Periodic evaluation and review of the wildlife hazard management plan for—
    - (i) Effectiveness in dealing with the wildlife hazard; and
    - (ii) Indications that the existence of the wildlife hazard, as previously described in the ecological study, should be reevaluated.

(7) A training program to provide airport personnel with the knowledge and skills needed to carry out the wildlife hazard management plan required by (d) of this section.

(f) Notwithstanding the other requirements of this section, each certificate holder shall take immediate measures to alleviate wildlife hazards whenever they are detected.

(g) FAA Advisory Circulars in the 150 series contain standards and procedures for wildlife hazard management at airports which are acceptable to the Administrator.

**§ 139.330 Airport condition reporting.**

(a) Each certificate holder shall provide for the collection and dissemination of airport condition information to air carriers.

(b) In complying with paragraph (a) of this section, the certificate holder shall utilize the NOTAM system and, as appropriate, other systems and procedures acceptable to the Administrator.

(c) In complying with paragraph (a) of this section, the certificate holder shall provide information on the following airport conditions which may affect the safe operations of air carriers:

(1) Construction or maintenance activity on movement areas, safety areas, or loading ramps and parking areas.

(2) Surface irregularities on movement areas or loading ramps and parking areas.

(3) Snow, ice, slush, or water on the movement area or loading ramps and parking areas.

(4) Snow piled or drifted on or near movement areas contrary to § 139.313.

(5) Objects on the movement area or safety areas contrary to § 139.309.

(6) Malfunction of any lighting system required by § 139.311.

(7) Unresolved wildlife hazards as identified in accordance with § 139.337.

(8) Nonavailability of any rescue and firefighting capability required in §§ 139.317 and 139.319.

(9) Any other condition as specified in the airport certification manual or airport certification specifications, or which may otherwise adversely affect the safe operations of air carriers.

(d) FAA Advisory Circulars in the 150 series contain standards and procedures for using the NOTAM system for dissemination of airport information which are acceptable to the Administrator.

**§ 139.341 Identifying, marking, and reporting construction and other unserviceable areas.**

(a) Each certificate holder shall—

(1) Mark and, if appropriate, light in a manner acceptable to the Administrator—

(i) Each construction area and unserviceable area which is on or adjacent to any movement area or any other area of the airport on which air carrier aircraft may be operated;

(ii) Each item of construction equipment and each construction roadway, which may affect the safe movement of aircraft on the airport; and

(iii) Any area adjacent to a navaid that, if traversed, could cause derogation of the signal or the failure of the navaid; and

(2) Provide procedures, such as a review of all appropriate utility plans prior to construction, for avoiding damage to existing utilities, cables, wires, conduits, pipelines, or other underground facilities.

(b) FAA Advisory Circulars in the 150 series contain standards and procedures for identifying and marking construction areas which are acceptable to the Administrator.

**§ 139.343 Noncomplying conditions.**

Unless otherwise authorized by the Administrator, whenever the requirements of subpart D of this part cannot be met to the extent that uncorrected unsafe conditions exist on the airport, the certificate holder shall limit air carrier operations to those portions of the airport not rendered unsafe by those conditions.



§ 33.75

[Amdt. 33-1, 36 FR 5493, Mar. 24, 1971]

§ 33.75 Safety analysis.

It must be shown by analysis that any probable malfunction or any probable single or multiple failure, or any probable improper operation of the engine will not cause the engine to—

- (a) Catch fire;
- (b) Burst (release hazardous fragments through the engine case);
- (c) Generate loads greater than those ultimate loads specified in § 33.23(a); or
- (d) Lose the capability of being shut down.

[Amdt. 33-6, 39 FR 35467, Oct. 1, 1974, as amended by Amdt. 33-10, 49 FR 6852, Feb. 23, 1984]

§ 33.77 Foreign object ingestion.

(a) Ingestion of a 4-pound bird, under the conditions prescribed in paragraph (e) of this section, may not cause the engine to—

- (1) Catch fire;
- (2) Burst (release hazardous fragments through the engine case);
- (3) Generate loads greater than those ultimate loads specified in § 33.23(a); or
- (4) Lose the capability of being shut down.

(b) Ingestion of 3-ounce birds or 1½-pound birds, under the conditions prescribed in paragraph (e) of this section, may not—

- (1) Cause more than a sustained 25 percent power or thrust loss;

(2) Require the engine to be shut down within 5 minutes from the time of ingestion; or

(3) Result in a potentially hazardous condition.

(c) Ingestion of water, ice, or hail, under the conditions prescribed in paragraph (e) of this section, may not cause a sustained power or thrust loss or require the engine to be shut down. It must be demonstrated that the engine can accelerate and decelerate safely while inducting a mixture of at least 4 percent water by weight of engine airflow following stabilized operation at both flight idle and takeoff power settings with at least a 4 percent water-to-air ratio.

(d) For an engine that incorporates a protection device, compliance with this section need not be demonstrated with respect to foreign objects to be ingested under the conditions prescribed in paragraph (e) of this section if it is shown that—

- (1) Such foreign objects are of a size that will not pass through the protective device;
- (2) The protective device will withstand the impact of the foreign objects; and
- (3) The foreign object, or objects, stopped by the protective device will not obstruct the flow of induction air into the engine with a resultant sustained reduction in power or thrust greater than those values required by paragraphs (b) and (c) of this section.

(e) Compliance with paragraphs (a), (b), and (c) of this section must be shown by engine test under the following ingestion conditions:

Foreign object	Test quantity	Speed of foreign object	Engine operation	Ingestion
Birds:				
3-ounce size.....	One for each 50 square inches of inlet area or fraction thereof up to a maximum of 16 birds. Three-ounce bird ingestion not required if a 1½-pound bird will pass the inlet guide vanes into the rotor blades.	Liftoff speed of typical aircraft.	Takeoff.....	In rapid sequence to simulate a flock encounter and aimed at selected critical areas.
1½-pound size.....	One for the first 300 square inches of inlet area, if it can enter the inlet, plus one for each additional 600 square inches of inlet area or fraction thereof up to a maximum of 8 birds.	Initial climb speed of typical aircraft.	Takeoff.....	In rapid sequence to simulate a flock encounter and aimed at selected critical areas.

Foreign object	Test quantity	Speed of foreign object	Engine operation	Ingestion
4-pound size.....	One, if it can enter the inlet.....	Maximum climb speed of typical aircraft if the engine has inlet guide vanes. Lift-off speed of typical aircraft, if the engine does not have inlet guide vanes.	Maximum cruise.....  Takeoff.....	Aimed at critical area.  Aimed at critical area.
Ice.....	Maximum accumulation on a typical inlet cowling and engine face resulting from a 2-minute delay in actuating anti-icing system, or a slab of ice which is comparable in weight or thickness for that size engine.	Sucked in.....	Maximum cruise.....	To simulate a continuous maximum icing encounter at 25°F.
Hail (0.8 to 0.9 specific gravity).	For all engines: With inlet area of not more than 100 square inches: one 1-inch hailstone. With inlet area of more than 100 square inches: one 1-inch and one 2-inch hailstone for each 150 square inches of inlet area or fraction thereof.  For supersonic engines (in addition): 3 hailstones each having a diameter equal to that in a straight line variation from 1 inch at 35,000 feet to 1/4 inch at 60,000 feet using diameter corresponding to the lowest supersonic cruise altitude expected.	Rough air flight speed of typical aircraft.  Supersonic cruise velocity. Alternatively, use subsonic velocities with larger hailstones to give equivalent kinetic energy.	Maximum cruise at 15,000 feet altitude.  Maximum cruise.....	In a volley to simulate a hailstone encounter. One-half the number of hailstones aimed at random area over the face of the inlet and the other half aimed at the critical face area.  Aimed at critical engine face area.
Water.....	At least 4 percent of engine airflow by weight.	Sucked in.....	Flight idle, acceleration, takeoff, deceleration.	For 3 minutes each at idle and takeoff, and during acceleration and deceleration in spray to simulate rain.

NOTE.—The term "inlet area" as used in this section means the engine inlet projected area at the front face of the engine. It includes the projected area of any spinner or bullet nose that is provided.

[Amdt. 33-10, 49 FR 6852, Feb. 23, 1984]

§ 33.79 Fuel burning thrust augmentor.

Each fuel burning thrust augmentor, including the nozzle, must—

- (a) Provide cutoff of the fuel burning thrust augmentor;
- (b) Permit on-off cycling;
- (c) Be controllable within the intended range of operation;
- (d) Upon a failure or malfunction of augmentor combustion, not cause the engine to lose thrust other than that provided by the augmentor; and
- (e) Have controls that function compatibly with the other engine controls and automatically shut off augmentor fuel flow if the engine rotor speed drops below the minimum rotational

speed at which the augmentor is intended to function.

[Amdt. 33-6, 39 FR 35468, Oct. 1, 1974]

**Subpart F—Block Tests; Turbine Aircraft Engines**

§ 33.81 Applicability.

This subpart prescribes the block tests and inspections for turbine engines.

[Doc. 3025, 29 FR 7453, June 10, 1964, as amended by Amdt. 33-6, 39 FR 35468, Oct. 1, 1974]

§ 33.82 General.

Before each endurance test required by this subpart, the adjustment set-

# Proposed Rules

Federal Register

Vol. 59, No. 4

Thursday, January 6, 1994

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

## DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

### 14 CFR Part 33

[Docket No. 93-ANE-65; Notice No. 33-ANE-05]

Special Conditions; Pratt & Whitney Model(s) PW4073 and PW4084 Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed special conditions.

**SUMMARY:** This notice proposes special conditions for the Pratt & Whitney (PW) Model(s) PW4073 and PW4084 turbofan engines. The applicable regulations do not contain adequate or appropriate safety standards for the protection of these systems from medium and large bird ingestion. This notice proposes the additional safety standards which the Administrator considers necessary to establish a level of safety equivalent to that established by the airworthiness standards for aircraft engines of the Federal Aviation Regulations (FAR).

**DATES:** Comments must be submitted on or before February 22, 1994.

**ADDRESSES:** Comments on this proposal may be submitted in triplicate to: Federal Aviation Administration (FAA), New England Region, Office of the Assistant Chief Counsel, Attn: Rules Docket No. 93-ANE-65, 12 New England Executive Park, Burlington, Massachusetts 01803-5299. Comments must be marked: Docket No. 93-ANE-65. Comments may be inspected at this location between 8 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays.

**FOR FURTHER INFORMATION CONTACT:** John Golinski, Engine and Propeller Standards Staff, ANE-110, Engine and Propeller Directorate, Aircraft Certificate Service, FAA, New England Region, 12 New England Executive Park, Burlington, Massachusetts 01803-5229;

telephone (617) 238-7119; fax (617) 238-7199.

#### SUPPLEMENTARY INFORMATION:

##### Comments Invited

Interested persons are invited to participate in the making of the proposed special conditions by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified under "ADDRESSES." All communications received on or before the closing date for comments, specified under "DATES," will be considered by the Administrator before taking action on the proposal. The proposal contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed special conditions. All comment submitted will be available in the Rules Docket for examination by interested persons, both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerning this proposal will be filed in the docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 93-ANE-65." The postcard will be date stamped and returned to the commenter.

##### Background

On December 10, 1990, Pratt & Whitney applied for type certification of PW Model(s) PW4073 and PW4084 turbofan engines. The FAA has determined that the current foreign object ingestion requirements of § 33.77(a) for four pound birds, and § 33.77(b) for one and one-half pound flocking birds, do not adequately represent the bird threat encountered in service. A study of in-service bird ingestion events has indicated a need to modify the bird ingestion requirements of this section to ensure design integrity and demonstrate an adequate level of safety.

The FAA has concluded that additional safety standards must be applied to Pratt & Whitney Model(s)

PW4073 and PW4084 turbofan engines to demonstrate that they are capable of acceptable operation after medium and large bird ingestion. The applicable airworthiness requirements do not contain adequate or appropriate safety standards for type certification with respect to the new design criteria. This new design criteria assumes the actual bird threat encountered in service.

##### Type of Certification Basis

Under the provisions of § 21.101 of the FAR, Pratt & Whitney must show that the PW Model(s) PW4073 and PW4084 turbofan engines meet the requirements of the applicable regulations in effect on the date of the application. Those Federal Aviation Regulations are § 21.21 and part 33, effective February 1, 1965, as amended through August 10, 1990, Amendment 33-14.

The Administrator finds that the applicable airworthiness regulations in part 33, as amended, do not contain adequate or appropriate safety standards for the PW Model(s) PW4073 and PW4084 turbofan engines because of its unique design criteria. Therefore, the Administrator proposes these special conditions under the provisions of § 21.16 to establish a level of safety equivalent to that established in the regulations.

Special conditions, as appropriate, are issued in accordance with § 11.49 of the FAR after public notice and opportunity for comment, as required by §§ 11.28 and 11.29(b), and become part of the type certification basis in accordance with § 21.101(b)(2).

##### Conclusion

This action affects only PW Model(s) PW4073 and PW4084 turbofan engines. It is not a rule of general applicability and affects only the manufacturer who applied to the FAA for approval of these new design criteria on the engine.

##### List of Subjects in 14 CFR Part 33

Air transportation, Aircraft, Aviation safety, Safety.

The authority citation for these special conditions continues to read as follows:

Authority: 49 U.S.C. App. 1354(a), 1421, 1423; 49 U.S.C. 106(g); 14 CFR 21.16, and 14 CFR 11.28.

### The Proposed Special Conditions

Accordingly, the Federal Aviation Administration (FAA) proposes the following special conditions as part of the type certification basis for the Pratt & Whitney Model(s) PW4073 and PW4084 turbofan engines.

In lieu of the requirements of FAR § 33.77(a) and (b), the following tests and analyses must be conducted, unless compliance can be shown by alternate methods acceptable to the Administrator:

(a) It must be shown that the ingestion of a single large bird, under the conditions prescribed in Appendix A, will not cause the engine to:

- (1) catch fire;
- (2) release hazardous fragments through the engine casing;
- (3) generate loads greater than those ultimate loads specified under § 33.23(a);
- (4) lose the ability to be shut down;

or

- (5) generate other conditions hazardous to the aircraft.

(b) Alternatively, if compliance with the bird ingestion requirements of paragraph (a) of this special condition is not established, the applicant must demonstrate that compliance with the containment requirements of § 33.94(a) constitutes a more severe demonstration than the requirements of paragraph (a) of this special condition. The engine type certification documentation will then be endorsed to reflect this alternative compliance method.

(c) It must be shown that the ingestion of medium birds, under the conditions prescribed in Appendix B, will not cause the engine to:

- (1) Sustain more than a 25 percent thrust loss;
- (2) Be shut down during the required run-on demonstration prescribed in Appendix B;
- (3) Exceed any engine operating limitations to the extent that the engine cannot comply with this section; or
- (4) Generate other conditions hazardous to the aircraft.

(d) It must be shown that engine spinner impact by one large bird and by the single largest medium bird, under the respective conditions prescribed in Appendices A and B, will not affect the engine to the extent that it cannot comply with the requirements of paragraphs (a) and (b) of this special condition.

### Appendix A—Large Bird Ingestion Test Procedures

(a) The test shall be conducted with the engine stabilized at rated takeoff thrust for the test day ambient conditions prior to the ingestion.

(b) The test shall be conducted using one eight-pound bird targeted at the most critical location and ingested at a bird speed of 200 knots.

(c) Power lever movement is not permitted within 15 seconds following the ingestion event.

### Appendix B—Medium Bird Ingestion Test Procedures

(a) The ingestion test shall be conducted with the engine stabilized at rated takeoff thrust for the test day ambient conditions prior to the ingestion.

(b) The test shall be conducted to simulate a flock encounter, with all birds ingested within approximately one second, and using the more severe of the following bird weight/quantity combinations:

- (1) Six 1.5-pound and one 2.5-pound birds.
- (2) Four 2.5-pound birds.

(c) Bird targeting shall be one 2.5-pound bird at the core primary flow path, and the remaining birds targeted at critical fan rotor locations.

(d) Bird ingestion velocity shall be the most critical velocity between V1 minimum through 250 knots.

(e) Power lever movements between stages must occur in 10 seconds or less. The following test schedule will be used as the post-ingestion run-on demonstration:

- (1) Two minutes with no power lever movement.
- (2) Three minutes at 75 percent of takeoff thrust.
- (3) Six minutes at 75 percent of maximum continuous thrust.
- (4) Six minutes at 50 percent of maximum continuous thrust.
- (5) One minute at approach idle.
- (6) Two minutes at 75 percent of takeoff thrust.
- (7) Retard throttle to idle.
- (8) Shut down the engine.

(f) An analysis or component/engine test(s) acceptable to the Administrator shall be conducted to determine the critical ingestion parameters for medium bird ingestion that relates to airspeeds from V1 minimum through 250 knots. The analysis or test(s) must also show satisfactory engine operation for medium bird ingestion at the most severe ambient operating condition approved for the engine that may be experienced in service.

Issued in Burlington, Massachusetts, on December 21, 1993.

Jay J. Pardee,

Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 94-136 Filed 1-5-94; 8:45 am.]

BILLING CODE 4910-13-M

### 14 CFR Part 33

[Docket No. 93-ANE-57; Notice No. 33-ANE-06]

Special Conditions; Rolls-Royce Model(s) RB211-Trent-875-17/-877-17/-884-17 Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

**ACTION:** Notice of proposed special conditions.

**SUMMARY:** This notice proposes special conditions for the Rolls-Royce Aircraft Engines Model(s) RB211-Trent-875-17/-877-17/-884-17 Turbofan Engines. The applicable regulations do not contain adequate or appropriate safety standards for the protection of these systems from water and hail ingestion. This notice proposes the additional safety standards which the Administrator considers necessary to establish a level of safety equivalent to that established by the airworthiness standards of part 33 of the Federal Aviation Regulations (FAR).

**DATES:** Comments must be submitted on or before February 22, 1994.

**ADDRESSES:** Comments on this proposal may be submitted in triplicate to: Federal Aviation Administration (FAA), New England Region, Office of the Assistant Chief Counsel, Attn: Rules Docket No. 93-ANE-67, 12 New England Executive Park, Burlington, Massachusetts 01803-5299. Comments must be marked: Docket No. 93-ANE-67. Comments may be inspected at this location between 8 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays.

**FOR FURTHER INFORMATION CONTACT:** Thomas Boudreau, Engine and Propeller Standards Staff, ANE-110, Engine and Propeller Directorate, Aircraft Certification Service, FAA, New England Region, 12 New England Executive Park, Burlington, Massachusetts 01803-5229; telephone (617) 238-7117; fax (617) 238-7199.

### SUPPLEMENTARY INFORMATION: Comments Invited

Interested persons are invited to participate in the making of the proposed special conditions by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified under ADDRESSES. All communications received on or before the closing date for comments, specified under DATES, will be considered by the Administrator before taking action on the proposal. The proposal contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed special conditions. All comments submitted will be available in the Rules Docket for examination by interested persons, both before and after

# Aeronautical Standards

Number: B1-1

Date: March 11th, 1968

Subject: BIRD CONTROL AT AIRPORTS

## B1-1.1 Purpose

Bird hazards to aircraft increase with the growth of bird population and/or aircraft in any particular area. No one device or combination of devices can be considered a panacea to cure this problem. Increased concern by the aviation community following recent aircraft accidents attributed to birds has accelerated experimentation and investigation into this relatively unknown field. New developments and procedures are under study at this time. This Standard reflects evaluated methods and FAA disseminated information. It defines minimum bird management devices required at each Facility, and bird reporting procedures. Additionally, each Facility is encouraged to investigate and develop bird deterrent methods to meet local needs, and to report on successful experiments.

## B1-1.2 General

Past experience and bird strike reports at the New York airports shows the Herring Gull to be the greatest bird hazard to aircraft safety, in this area.

Every effort must be made to adopt all practical means to make the airport as unattractive to birds as possible. The biggest attraction for the Herring Gull is his source of food which is frequently found in the local garbage dump area. These locations should be identified in the airport environs. Local authorities and private owners should be made aware of the problems created by birds in these areas and their effect on aviation safety.

## B1-1.3 Administration

One person at each Facility is to be assigned the responsibilities for the Facility's bird management program. This includes overseeing site selection for devices, procedures, education of airport personnel, recommending bird management budget expenditures, related liaison, and control of all other facets associated with this program.

B1-1.4 Bird Reporting Program

Encourage pilots, airline employees, and PONYA and others who have duties on the airfield, etc., to report existence of birds on the airport. Log information and advise Control Tower of all bird information received and transmitted. Issue AIRMEN ADVISORIES where necessary. (See Section 1.6)

B1-1.5 Bird Surveillance Inspections

The bird problem at most airports is a continuous one, and one that requires constant attention. During periods when birds normally loiter, or have been reported on the airport (frequently during periods of marginal weather), surveillance inspections should be increased.

Under certain conditions it may be necessary to assign fulltime personnel to bird surveillance. This procedure has been found most successful at Logan International Airport

B1-1.6 AIRMEN ADVISORY

The Duty Operations Supervisor will issue an AIRMEN ADVISORY when he deems that birds loitering on the airport are a hazard to aircraft safety. The FAA Control Tower will be advised of the issuance of the AIRMEN ADVISORY. Appropriate log entries will be made.

Birds sighted over the airport, or in the vicinity of the airport, will be reported to the FAA Control Tower for their action. Log entries will be made of time, report, and name of person advised in tower.

B1-1.7 Permits and Licenses

Permits to operate shotguns and the lethal disposal of birds by means of pellets or chemicals requires City, State and Federal authority.

B1-1.8 Bird Deterrent Devices

The minimum bird deterrent devices to be used, and which are required for each airport are:

1. Carbide cannons - sufficient number required for effective use. (Approx. cost \$100.00 ea.) \*

2. Electronic Tape distress call unit -  
(Approx. cost \$700.00 ea. obtained  
through Radio Shop)
3. Shotgun - (Approx. cost \$75.00)
4. Cracker shells
5. Ammunition #2 - #4 shot

\* Use of carbide cannons is optional at LaGuardia Airport.

Purchase of other devices deemed necessary to meet local needs of the airport, is encouraged. It should be recognized that past experience shows that no one or combination of present day mechanical deterrents provide the complete answer to this problem, however, some protection can be afforded by judicious application of these bird control devices.

B1-1.9

#### Airport Maintenance

Effective bird management efforts require intensive airport maintenance programs and should include, to the extent practical, the following areas:

1. Drain or fill marshes and ponds on the airport.
2. Dispose of foodbearing plants such as bayberry, tall stands of phragmites and other dense growths of vegetation used for roosting purposes. This may be done by cutting, bulldozing or through the use of herbicides.
3. Routine spraying of selected grass areas with chlordane will inhibit seed germination and destroy many of the insects that attract birds.
4. Eliminate sewer outlets where possible.
5. Dredge mudflats or cover with gravel to eliminate shore bird concentration.
6. Exterminate rodents which attract birds of prey.
7. Review all new construction projects, surcharging for runway extensions, buildings, etc., with the bird hazard in mind.

B1-1.10

#### Bird Strike Report (FAA Form 3830)

A sufficient supply of FAA Form 3830, Bird Strike/Incident Report, will be maintained by each Facility and made readily available to all General Aviation Pilots. Air carriers should be encouraged to make this form available to their pilots.

81-1.11

Reporting of Aircraft Bird Strikes

Each Facility will maintain records of number of bird carcasses found, location and type of birds, and the weather conditions at time, if known, and the number and type of birds disposed of by shotgun or chemical means.

A quarterly report, for statistical purposes, will be transmitted to the Aviation Technical Services Division by the 10th of the month following the end of each quarter.

Forms will be supplied by this office, and upon receipt will be tabulated and a combined report for each period will be published.

Chief, Aviation Technical Services Div.

*Louis A. Chitoff*

AERONAUTICAL FACILITY MANAGERS

Heliports	<u>Not Applicable</u>
Kennedy	<u><i>CB Patarini</i></u>
LaGuardia	<u><i>W. C. Ingraham</i></u>
Newark	<u><i>James L. ...</i></u>
Teterboro	<u><i>James L. ...</i></u>

DIRECTOR OF AVIATION

*John R. Moley*

DATE

*3/14/68*

Department of Agriculture  
NEPA Regulations  
7 C.F.R. Pts. 1b, 3100

**PART 1b—NATIONAL  
ENVIRONMENTAL POLICY ACT**

- Sec.  
1b.1 Purpose.  
1b.2 Policy.  
1b.3 Categorical exclusions.  
1b.4 Exclusion of agencies.

**AUTHORITY:** National Environmental Policy Act (NEPA), as amended, 42 U.S.C. 4321 et seq.; E.O. 11514, 34 FR 4247, as amended by E.O. 11991, 42 FR 26927; E.O. 12114, 44 FR 1957; 5 U.S.C. 301; 40 CFR 1507.3.

**SOURCE:** 48 FR 11403, Mar. 18, 1983, unless otherwise noted.

**§ 1b.1 Purpose.**

(a) This subpart supplements the regulations for implementation of the National Environmental Policy Act (NEPA), for which regulations were published by the Council of Environmental Quality (CEQ) in 40 CFR Parts 1500 through 1508. The subpart incorporates and adopts those regulations.

(b) This subpart sets forth Departmental policy concerning NEPA, establishes categorical exclusions of actions carried out by the Department and its agencies, and sets forth those USDA agencies which are excluded from the requirement to prepare procedures implementing NEPA.

**§ 1b.2 Policy.**

(a) USDA agencies carry out programs for the purpose of encouraging sufficient and efficient production of food, fiber, and forest products; proper management and conservation of the Nation's natural resources; and the protection of consumers through inspection services. Programs to meet this mission are carried out through research; education; technical and financial assistance to landowners and operators, producers, and consumers; and management of the National Forest System.

(b) All policies and programs of the various USDA agencies shall be planned, developed, and implemented so as to achieve the goals and to follow the procedures declared by NEPA in order to assure responsible stewardship of the environment for present and future generations.

(c) Each USDA agency is responsible for compliance with the provisions of this subpart, the regulations of CEQ, and the provisions of NEPA. Compliance will include the preparation and implementation of specific procedures and processes relating to the programs and activities of the individual agency, as necessary.

(d) The Assistant Secretary, Natural Resources and Environment (NR&E), is responsible for ensuring that agency implementing procedures are consistent with CEQ's NEPA regulations and for coordinating NEPA compliance for the Department (7 CFR 2.19(b)). The

Assistant Secretary, through the USDA Natural Resources and Environment Committee, will develop the necessary processes to be used by the Office of the Secretary in reviewing, implementing, and planning its NEPA activities, determinations, and policies.

(e) In connection with the policies and requirements set forth in this subpart, all USDA agencies are responsible for compliance with Executive Order 12114, "Environmental Effects Abroad of Major Federal Actions." Compliance will include the preparation and implementation of specific procedures and processes relative to the programs and activities of the individual agencies, as necessary. Agencies shall consult with the Department of State; the Council on Environmental Quality; and the Assistant Secretary, NR&E, prior to placing procedures and processes in effect.

**§ 1b.3 Categorical exclusions.**

(a) The following are categories of activities which have been determined not to have a significant individual or cumulative effect on the human environment and are excluded from the preparation of environmental assessment (EA's) or environmental impact statement (EIS's), unless individual agency procedures prescribed otherwise.

(1) Policy development, planning and implementation which relate to routine activities, such as personnel, organizational changes, or similar administrative functions;

(2) Activities which deal solely with the funding of programs, such as program budget proposals, disbursements, and transfer or reprogramming of funds;

(3) Inventories, research activities, and studies, such as resource inventories and routine data collection when such actions are clearly limited in context and intensity;

(4) Educational and informational programs and activities;

(5) Civil and criminal law enforcement and investigative activities;

(6) Activities which are advisory and consultative to other agencies and public and private entities, such as legal counselling and representation;

(7) Activities related to trade representation and market development activities abroad.

(b) Agencies will identify in their own procedures the activities which normally would not require an environmental assessment or environmental impact statement.

(c) Notwithstanding the exclusions listed above and in § 1b.4, or identified in agency procedures, agency heads may determine that circumstances dictate the need for preparation of an EA or EIS for a particular action. Agencies shall continue to scrutinize their activities to determine continued eligibility for categorical exclusion.

**§ 1b.4 Exclusion of agencies.**

(a) The USDA agencies listed below carry out programs and activities which have been found to have no individual or cumulative effect on the human environment. These agencies are excluded from the requirements to prepare implementing procedures. Actions of these agencies are categorically excluded from the preparation of an EA or EIS unless the agency head determines that an action may have a significant environmental effect.

- (1) Agricultural Cooperative Service
- (2) Agricultural Marketing Service
- (3) Extension Service
- (4) Economic Research Service
- (5) Federal Crop Insurance Corporation
- (6) Federal Grain Inspection Service
- (7) Food and Nutrition Service
- (8) Food Safety and Inspection Service
- (9) Foreign Agricultural Service
- (10) Office of Transportation
- (11) Packers and Stockyards Administration
- (12) Statistical Reporting Service
- (13) Office of General Counsel
- (14) Office of Inspector General
- (15) National Agricultural Library

**PART 3100—CULTURAL AND  
ENVIRONMENTAL QUALITY**

**Subparts A-B [Reserved]**

**Subpart C—Enhancement, Protection, and  
Management of the Cultural Environment**

- Sec.  
3100.40 Purpose.  
3100.41 Authorities.  
3100.42 Definitions.  
3100.43 Policy.  
3100.44 Implementation.  
3100.45 Direction to agencies.  
3100.46 Responsibilities of the Department of Agriculture.

**Subparts A-B [Reserved]**

**Subpart C—Enhancement, Protection  
and Management of the Cultural  
Environment**

**AUTHORITY:** Sec. 106, National Historic Preservation Act, as amended (16 U.S.C. 470f); National Environmental Policy Act, as amended (42 U.S.C. 4321 et seq.); E.O. 11593, 36 FR 8921, May 13, 1971.

**SOURCE:** 44 FR 66181, Nov. 19, 1979, unless otherwise noted.

**§ 3100.40 Purpose.**

(a) This subpart establishes USDA policy regarding the enhancement, protection, and management of the cultural environment.

(b) This subpart establishes procedures for implementing Executive Order 11593, and regulations promulgated by the Advisory Council on Historic Preservation (ACHP) "Protection of Historical and Cultural Properties"

in 36 CFR Part 800 as required by § 800.10 of those regulations.

(c) Direction is provided to the agencies of USDA for protection of the cultural environment.

#### § 3100.41 Authorities.

These regulations are based upon and implement the following laws, regulations, and Presidential directives:

(a) *Antiquities Act of 1906* (Pub. L. 59-209; 34 Stat. 225; 16 U.S.C. 431 et seq.) which provides for the protection of historic or prehistoric remains or any object of antiquity on Federal lands; establishes criminal sanctions for unauthorized destruction or appropriation of antiquities; and authorizes scientific investigation of antiquities on Federal lands, subject to permit and regulations. Paleontological resources also are considered to fall within the authority of this Act.

(b) *Historic Sites Act of 1935* (Pub. L. 74-292; 49 Stat. 666; 16 U.S.C. 461 et seq.) which authorizes the establishment of National Historic Sites and otherwise authorizes the preservation of properties of national historical or archeological significance; authorizes the designation of National Historic Landmarks; establishes criminal sanctions for violation of regulations pursuant to the Act; authorizes interagency, intergovernmental, and interdisciplinary efforts for the preservation of cultural resources; and other provisions.

(c) *Reservoir Salvage Act of 1960* (Pub. L. 86-521; 74 Stat. 220; 16 U.S.C. 469-469c.) which provides for the recovery and preservation of historical and archeological data, including relics and specimens, that might be lost or destroyed as a result of the construction of dams, reservoirs, and attendant facilities and activities.

(d) *The National Historic Preservation Act of 1966* as amended (16 U.S.C. 470), which establishes positive national policy for the preservation of the cultural environment, and sets forth a mandate for protection in section 106. The purpose of section 106 is to protect properties on or eligible for the National Register of Historic Places through review and comment by the ACHP of Federal undertakings that affect such properties. Properties are listed on the National Register or declared eligible for listing by the Secretary of the Interior. As developed through the ACHP's regulations, section 106 establishes a public interest process in which the Federal agency proposing an undertaking, the State Historic Preservation Officer, the ACHP, interested organizations and individuals participate. The process is designed to insure that properties, impacts on them, and effects to them are identified, and that alternatives to avoid or mitigate an adverse effect on property eligible for the National Register are adequately considered in the planning process.

(e) *The National Environmental Policy Act of 1969* (NEPA) (Pub. L. 91-190; 83 Stat. 852; 42 U.S.C. 4321 et seq.) which declares that it is the policy of the Federal Government to

preserve important historic, cultural, and natural aspects of our national heritage. Compliance with NEPA requires consideration of all environmental concerns during project planning and execution.

(f) *Executive Order 11593, "Protection and Enhancement of the Cultural Environment"*, which gives the Federal Government the responsibility for stewardship of our nation's heritage resources and charges Federal agencies with the task of inventorying historic and prehistoric sites on their lands. E.O. 11593 also charges agencies with the task of identifying and nominating all historic properties under their jurisdiction, and exercising caution to insure that they are not transferred, sold, demolished, or substantially altered.

(g) *Historical and Archeological Data Preservation Act of 1974* (Pub. L. 93-291; 88 Stat. 174.) which amends the Reservoir Salvage Act of 1960 to extend its provisions beyond the construction of dams to any alteration of the terrain caused as a result of any Federal construction project or federally licensed activity or program. In addition, the Act provides a mechanism for funding the protection of historical and archeological data.

(h) *Presidential memorandum of July 12, 1978, "Environmental Quality and Water Resource Management"* which directs the ACHP to publish final regulations, implementing section 106 of the National Historic Preservation Act (NHPA), and further directs each agency with water and related land resources responsibilities to publish procedures implementing those regulations.

(i) *36 CFR Part 800, "Protection of Historic and Cultural Properties"* which establishes procedures for the implementation of section 106 of the NHPA, and directs publication of agency implementing procedures.

(j) *Land use policy of the USDA (Secretary's Memorandum No. 1827 Revised, with Supplement)* which establishes a commitment by the Department to the preservation of farms, rural communities, and rural landscapes.

(k) *Public Buildings Cooperative Use Act of 1976 (40 U.S.C. 611) and Executive Order 12072 (Federal Space Management)*. The Act encourages adaptive use of historic buildings as administrative facilities for Federal agencies and activities; the Executive Order directs Federal agencies to locate administrative and other facilities in central business districts.

(l) *American Indian Religious Freedom Act of 1978 (42 U.S.C. 1996)* which declares it to be the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians.

#### § 3100.42 Definitions.

All definitions are those which appear in 36 CFR Part 800. In addition, the following apply in this rule:

*Cultural resources (heritage resources)* are the remains or records of districts, sites, structures, buildings, networks, neighborhoods, objects, and events from the past. They may be historic, prehistoric, archeological, or architectural in nature. Cultural resources are an irreplaceable and non-renewable aspect of our national heritage.

*Cultural environment* is that portion of the environment which includes reminders of the rich historic and prehistoric past of our nation.

#### § 3100.43 Policy.

(a) The nonrenewable cultural environment of our country constitutes a valuable and treasured portion of the national heritage of the American people. The Department of Agriculture is committed to the management—identification, protection, preservation, interpretation, evaluation and nomination—of our prehistoric and historic cultural resources for the benefit of all people of this and future generations.

(b) The Department supports the cultural resource goals expressed in Federal legislation, Executive orders, and regulations.

(c) The Department supports the preservation and protection of farms, rural landscapes, and rural communities.

(d) The Department is committed to consideration of the needs of American Indians, Eskimo, Aleut, and Native Hawaiians in the practice of their traditional religions.

(e) The Department will aggressively implement these policies to meet goals for the positive management of the cultural environment.

#### § 3100.44 Implementation.

(a) It is the intent of the Department to carry out its program of management of the cultural environment in the most effective and efficient manner possible. Implementation must consider natural resource utilization, must exemplify good government, and must constitute a noninflationary approach which makes the best use of tax dollars.

(b) The commitment to cultural resource protection is vital. That commitment will be balanced with the multiple departmental goals of food and fiber production, environmental protection, natural resource and energy conservation, and rural development. It is essential that all of these be managed to reduce conflicts between programs. Positive management of the cultural environment can contribute to achieving better land use, protection of rural communities and farm lands, conservation of energy, and more efficient use of resources.

(c) In reaching decisions, the long-term needs of society and the irreversible nature of an action must be considered. The Department must act to preserve future options; loss of important cultural resources must be avoided except in the face of overriding na-

ational interest where there are no reasonable alternatives.

(d) To assure the protection of Native American religious practices, traditional religious leaders and other native leaders (or their representatives) should be consulted about potential conflict areas in the management of the cultural environment and the means to reduce or eliminate such conflicts.

#### § 3100.45 Direction to agencies.

(a) Each agency of the Department shall consult with OEQ to determine whether its programs and activities may affect the cultural environment. When, if needed, the agency, in consultation with the OEQ, shall develop its own specific procedures for implementing section 106 of the National Historic Preservation Act, Executive Order 11593, the regulations of the ACHP (36 CFR Part 800), the American Indian Religious Freedom Act of 1978 and other relevant legislation and regulations in accordance with the agency's programs, mission and authorities. Such implementing procedures shall be published as proposed and final procedures in the FEDERAL REGISTER, and must be consistent with the requirements of 36 CFR Part 800 and this subpart. Where applicable, each agency's procedures must contain mechanisms to insure:

(1) Compliance with section 106 of NHPA and mitigation of adverse effects to cultural properties on or eligible for the National Register of Historic Places;

(2) Clear definition of the kind and variety of sites and properties which should be managed;

(3) Development of a long-term program of management of the cultural environment on lands administered by USDA as well as direction for project-specific protection;

(4) Identification of all properties listed on or eligible for listing in the National Register that may be affected directly or indirectly by a proposed activity;

(5) Location, identification and nomination to the Register of all sites, buildings, objects, districts, neighborhoods, and networks under its management which appear to qualify (in compliance with E.O. 11593);

(6) The exercise of caution to assure that properties managed by USDA which may qualify for nomination are not transferred, sold, demolished, or substantially altered;

(7) Early consultation with, and involvement of, the State Historic Preservation Officer(s), the ACHP, Native

American traditional religious leaders and appropriate tribal leaders, and others with appropriate interests or expertise;

(8) Early notification to insure substantive and meaningful involvement by the public in the agency's decision-making process as it relates to the cultural environment;

(9) Identification and consideration of alternatives to a proposed undertaking that would mitigate or minimize adverse effects to a property identified under paragraph (a)(4) of this section;

(10) Funding of mitigation measures where required to minimize the potential for adverse effects on the cultural environment. Funds for mitigation shall be available and shall be spent when needed during the life of the project to mitigate the expected loss; and

(11) Development of plans to provide for the management, protection, maintenance and/or restoration of Register sites under its management.

(b) Each agency of the Department which conducts programs or activities that may have an effect on the cultural environment shall recruit, place, develop, or otherwise have available, professional expertise in anthropology, archeology, history, historic preservation, historic architecture, and/or cultural resource management (depending upon specific need). Such arrangements may include internal hiring, Intergovernmental Personnel Act assignments, memoranda of agreement with other agencies or Departments, or other mechanisms which insure a professionally directed program. Agencies should use Department of the Interior professional standards (36 CFR 61.5) as guidelines to insure Departmentwide competence and consistency.

(c) Compliance with cultural resource legislation is the responsibility of each individual agency. Consideration of cultural resource values must begin during the earliest planning stages of any undertaking.

(d) Agency heads shall insure that cultural resource management activities meet professional standards as promulgated by the Department of the Interior (e.g., 36 CFR Parts 60, 63, 66, 1208).

(e) Cultural resource review requirements and compliance with section 106 of NHPA and Executive Order 11593 shall be integrated and run concurrently, rather than consecutively, with the other environmental considerations under NEPA regulations. As such, direct and indirect impacts on cultural resources must be addressed

in the environmental assessment for every agency undertaking. In meeting these requirements, agencies shall be guided by regulations implementing the procedural provisions of NEPA (40 CFR Parts 1500-1508) and Department of Agriculture regulations (7 CFR Part 3100, Subpart B).

(f) Each agency shall work closely with the appropriate State Historic Preservation Officer(s) in their preparation of State plans, determination of inventory needs, and collection of data relevant to general plans or specific undertakings in carrying out mutual cultural resource responsibilities.

(g) Each agency shall, to the maximum extent possible, use existing historic structures for administrative purposes in compliance with Public Buildings Cooperative Use Act of 1976 and Executive Order 12072, "Federal Space Management".

(h) Each agency should consult with Native American traditional religious leaders or their representatives and other native leaders in the development and implementation of cultural resource programs which may affect their religious customs and practices.

#### § 3100.46 Responsibilities of the Department of Agriculture.

(a) Within the Department, the responsibility for the protection of the cultural environment is assigned to the Office of Environmental Quality (OEQ). The Office is responsible for reviewing the development and implementation of agency procedures and insuring Departmental commitment to cultural resource goals.

(b) The Director of the OEQ is the Secretary's Designee to the ACHP.

(c) In order to carry out cultural resource responsibilities, there will be professional expertise within the OEQ to advise agencies, aid the Department in meeting its cultural resource management goals, and to insure that all Departmental and agency undertakings comply with applicable cultural resource protection legislation and regulations.

(d) The OEQ will be involved in individual compliance cases only where resolution cannot be reached at the agency level. Prior to the decision to refer a matter to the full Council of the ACHP, the OEQ will review the case and make recommendations to the Secretary regarding the position of the Department. The agency also will consult with the OEQ before reaching a final decision in response to the Council's comments. Copies of correspondence relevant to compliance with Section 106 shall be made available to OEQ.

## **Waterfront Revitalization Program Policies**

Following is a complete list of the 56 policies of the New York City Waterfront Revitalization Program. The 44 numbered policies are the State policies of the Coastal Management Program; the 12 lettered policies are specific to New York City's program. Following many of the policies is a discussion from the State Coastal Management Program. This discussion ranges from general policy directives to guidelines or practical instruction.

**POLICY 1:** *Restore, revitalize, and redevelop deteriorated and underutilized waterfront areas for commercial, industrial, cultural, recreational, and other compatible uses.*

The New York City Comprehensive Waterfront Plan provides guidance in encouraging redevelopment in appropriate areas; all proposed actions may consider this plan in conjunction with other waterfront policies and plans.

In accordance with the WRP and New York State Coastal Management Program, when an action is proposed to take place in an urban waterfront area, the following guidelines may be helpful in identifying whether or not there will be a consistency issue:

1. Priority should be given to uses that are dependent on a location adjacent to the water.
2. The action should enhance existing and anticipated uses. For example, a new highway should be designed and constructed so as to serve the potential access needs for desirable industrial development.
3. The action should serve as a catalyst to private investment in the area.
4. The action should improve the deteriorated condition of a site and, at a minimum, must not cause further deterioration. For example, a building could not be abandoned without protecting it against vandalism and/or structural decline.
5. The action must lead to development that is compatible with the character of the area, with consideration given to scale, architectural style, density, and intensity of use.
6. The action should have the potential to improve the existing economic base of the community, and, at a minimum, must not jeopardize this base. For example, waterfront development meant to serve consumer needs would be inappropriate in an area where no increased consumer demands were expected and existing development was already meeting demand.
7. The action should improve adjacent and upland views of the water, and, at a minimum, must not affect these views in an insensitive manner.
8. The action should have the potential to improve the potential for multiple uses of the site.

NEW YORK CITY POLICY A: *Improve urban shorelines by maintaining, removing, or recycling waterfront structures (piers, docks, wharves etc.) in accordance with waterfront development policies and plans. Identify alternative uses for underutilized waterfront structures.*

POLICY 2: *Facilitate the siting of water-dependent uses and facilities on or adjacent to coastal waters.*

Municipally owned waterfront sites should be used for water-dependent uses, and/or should be developed to promote public access, where safety and security concerns can be addressed. Non-water-dependent uses should only be considered where it can be demonstrated that no feasible non-waterfront site exists or where the temporary nature of the facility does not commit the site in the long term.

The following uses and facilities are considered as water-dependent:

1. Uses that depend on the utilization of resources found in coastal waters (for example: fishing, mining of sand and gravel, mariculture activities);
2. Recreational activities that depend on access to coastal waters (for example: swimming, fishing, boating, wildlife viewing);
3. Uses involved in the sea/land transfer of good (for example: docks, loading areas, pipelines, short-term storage facilities);
4. Structures needed for navigational purposes (for example: locks, dams, lighthouses);
5. Flood and erosion protection structures (for example: breakwaters, bulkheads);
6. Facilities needed to store and service boats and ships (for example: marinas, boat repair, boat construction yards);
7. Uses requiring large quantities of water for processing and cooling purposes (for example: hydroelectric power plants, fish processing plants, pumped storage power plants);
8. Uses that rely heavily on the waterborne transportation of raw materials or products that are difficult to transport on land, thereby making it critical that a site near to shipping facilities be obtained (for example: coal export facilities, cement plants, quarries);
9. Uses that operate under such severe time constraints that proximity to shipping facilities becomes critical (for example: firms processing perishable foods);
10. Scientific/education activities that, by their nature, require access to coastal waters (for example: certain meteorological and oceanographic activities); and
11. Support facilities that are necessary for the successful functioning of permitted water-dependent uses (For example: parking lots, snack bars, first aid stations, short-term storage facilities). Though these uses must be near the given water-dependent use they should, as much as possible, be sited inland from the water-dependent use rather than on the shore.

According to the WRP, uses that are enhanced by a waterfront location should be encouraged to be located along the shore, through not at the expense of water-dependent uses. A water-enhanced use is defined as a use that has no critical dependence on obtaining a waterfront location, but profitability of the use and/or the enjoyment level of the users would be increased significantly if the use were adjacent to, or had visual access to the

waterfront. A restaurant that uses good site design to take advantage of a waterfront view, and a golf course that incorporates the coastline into the course design, are two examples of water-enhanced uses.

If there is no immediate demand for a water-dependent use in a given area but a future demand is reasonably foreseeable, temporary non-water-dependent uses should be considered preferable to a non-water-dependent use that involves an irreversible, or nearly irreversible commitment of land. Parking lots, passive recreational facilities, outdoor storage areas, and non-permanent structures are uses that would likely be considered as "temporary" non-water-dependent uses.

In the actual choice of sites where water-dependent uses will be encouraged and facilitated, the following guidelines should be used:

1. Competition for space—competition for space or the potential for it, should be indicated before any given site is promoted for water-dependent uses. The intent is to match water-dependent uses with suitable locations and thereby reduce any conflicts between competing uses that might arise. Not just any site suitable for development should be chosen as a water-dependent use area. The choice of a site should be made with some meaningful impact on the real estate market anticipated. The anticipated impact could either be one of increased protection to existing water-dependent activities or else the encouragement of water-dependent development.
2. In-place facilities and services—most water-dependent uses, if they are to function effectively, will require basic public facilities and services. In selecting appropriate areas for water-dependent use, consideration should be given of the following factors:
  - a. The availability of public sewers, public water lines and adequate power supply;
  - b. Access to the area for trucks and rail, if heavy industry is to be accommodated; and
  - c. Access to public transportation, if a high number of person trips is to be generated.
3. Access to navigational channels—if commercial shipping, commercial fishing, or recreational boating are planned, the locality should consider setting aside a site, within a sheltered harbor, from which access to adequately sized navigation channels would be assured.
4. Compatibility with adjacent uses and the protection of other coastal resources—water-dependent uses should be located so that they enhance, or at least do not detract from, the surrounding community. Consideration should also be given to such factors as the protection of nearby residential areas from odors, noise, and traffic. Affirmative approaches should also be employed so that water-dependent uses and adjacent uses can serve to complement one another. For example, a recreation-oriented water-dependent use area could be sited in an area already oriented towards tourism. Clearly, a marina, fishing pier or swimming area would enhance, and in turn be enhanced by, nearby restaurants, motels and other non-water-oriented tourist activities. Water-dependent uses must also be sited so as to avoid adverse impacts on the significant coastal resources.
5. Preference to underutilized sites—the promotion of water-dependent uses should serve to foster development as a result of the capital programming, permit expediting, and other State and local actions that will be used to promote the site. Nowhere is such a stimulus needed more than in those portions of the State's waterfront areas that are currently underutilized.
6. Providing for expansion—a primary objective of the policy is to create a process by which water-dependent uses can be accommodated well into the future. State agencies and localities should therefore give consideration to long-term space needs and, where practicable, accommodate future demand by identifying more land that is needed in the near future.

NEW YORK CITY POLICY B: Improve channels as necessary to maintain and stimulate economic development.

POLICY 3: *Promote the development and use of the State's major ports as centers of commerce and industry, emphasizing the siting, within port areas, of land use and development which is necessary to, or in support of, the waterborne transportation of cargo and people. The State's major ports are the ports of Albany, Buffalo, New York, Ogdensburg, and Oswego.*

The following guidelines shall be used in determining consistency:

1. In assessing proposed projects within or abutting a major port, given that all other applicable policies are adhered to, the overriding consideration is the maintenance and enhancement of port activity, i.e., development related to waterborne transportation, which will have precedence over other, non-port-related activities.
2. Dredging to maintain the economic viability of major ports will be regarded as an action of regional or Statewide public benefit if: a clear need is shown for maintaining or improving the established alignment, width, and depth of existing channels or for new channels essential to port activity; and it can be demonstrated that environmental impacts would be at acceptable levels according to State regulations governing the activity.
3. Landfill projects in the near-shore areas will be regarded as an acceptable activity within major port areas, provided adverse environmental impacts are acceptable under all applicable environmental regulation and a strong economic justification is demonstrated
4. If non-port related activities are proposed to be located in or near to a major port, these uses shall be sited so as not to interfere with normal port operations.
5. When not already restricted by existing laws or covenants, and when there is no other overriding regional or Statewide public benefit for doing otherwise, surplus public land or facilities within or adjacent to a major port shall be offered for sale, in the first instance, to the appropriate port authority.
6. In the programming of capital projects for port areas, highest priority will be given to projects that promote the development and use of the port.

However, in determining such priorities, consideration must also be given to non-port related interests within or near the ports that have demonstrated critical capital programming needs.

7. No buildings, piers, wharves, or vessels shall be abandoned or otherwise left unused by a public agency or sold without making provisions for their maintenance in sound condition or for their demolition or removal.
8. Proposals for the development of new major ports will be assessed in terms of the anticipated impact on: a) existing New York State major ports; b) existing modes of transportation; and c) the surrounding land uses and overall neighborhood character of the area in which the proposed port is to be located; and other valued coastal resources.
9. Port development shall provide opportunities for public access insofar as these opportunities do not interfere with the day-to-day operations of the port and the port authority and its tenants do not incur unreasonable costs.

**POLICY 4:** *Strengthen the economic base of smaller harbor areas by encouraging the development and enhancement of those activities which have provided such areas with a unique identity.*

The following guidelines shall apply:

1. The action shall give priority to those traditional and/or desired uses that are dependent on or enhanced by a location adjacent to the water.
2. The action will enhance or not detract from or adversely affect existing traditional and/or desired anticipated uses.
3. The action shall not be out of character with, nor lead to development that would be out of character with, existing development in terms of the area's scale, intensity of use, and architectural style.
4. The action must not cause a site to deteriorate, e.g., a structure shall not be subject to vandalism and/or structural decline.
5. The action will not adversely affect the existing economic base of the community, e.g., waterfront development designed to promote residential development might be inappropriate in a harbor area where the economy is dependent upon tourism and commercial fishing.
6. The action will not detract from views of the water and smaller harbor area, particularly where the visual quality of the area is an important component of the area's appeal and identity.

**POLICY 5:** *Encourage the location of development in areas where public services and facilities' essential to such development are adequate.*

This policy is intended to accomplish the following:

- Strengthen existing residential, industrial, and commercial centers;
- Foster an orderly pattern of growth where outward expansion is occurring;
- Increase the productivity of existing public services and moderate the need to provide new public services in outlying areas;
- Preserve open space in sufficient amounts and where desirable; and
- Foster energy conservation by encouraging proximity between home, work, and leisure activities.

The following guidelines shall be used in making a determination as to whether the action is within, contiguous to, or in close proximity to an area of concentrated development where infrastructure and public services are adequate:

1. Cities, built-up suburban towns and villages, and rural villages in the coastal area are generally areas of concentrated development where infrastructure and public services are adequate.
2. Other locations in the coastal area may also be suitable for development, if three or more of the following conditions prevail:

- a. Population density of the area surrounding or adjacent to the proposed site exceeds 1,000 persons per square mile;
  - b. Fewer than 50 percent of the buildable sites (i.e., sites meeting lot area requirements under existing local zoning regulations) within a one-mile radius of the proposed site are vacant;
  - c. Proposed site is served by or is near to public or private sewer and water lines;
  - d. Public transportation service is available within one mile of the proposed site; and
  - e. A significant concentration of commercial and/or industrial activity is within one-half mile of the proposed site.
3. The following points shall be considered in assessing the adequacy of an area's infrastructure and public services:
- a. Streets and highways serving the proposed site can safely accommodate the peak traffic generated by the proposed land development;
  - b. Development's water needs (consumptive and fire fighting) can be met by the existing water supply system;
  - c. Sewage disposal system can accommodate the water generated by the development;
  - d. Energy needs of the proposed land development can be accommodated by existing utility systems;
  - e. Stormwater runoff from the proposed site can be accommodated by on-site and/or off-site facilities; and
  - f. Schools, police and fire protection, and health and social services are adequate to meet the needs of the population expected to live, work, shop, or conduct business in the area as a result of the development.

It is recognized that certain forms of development may and/or should occur at locations that are not within or near areas of concentrated development. Thus, this coastal development policy does not apply to the following types of development projects and activities:

1. Economic activities that depend upon sites at or near locations where natural resources are present, e.g., lumber industry, quarries.
2. Development that by its nature is enhanced by a non-urbanized setting, e.g., a resort complex, campgrounds, second home developments.
3. Development that is designed to be a self-contained activity, e.g., a small college, an academic or religious retreat.
4. Water-dependent uses with site requirements not compatible with this policy or when alternative sites are not available.
5. Development that because of its isolated location and small-scale has little or no potential to generate and/or encourage further land development.
6. Uses and/or activities that because of public safety consideration should be located away from populous areas.

7. Rehabilitation or restoration of existing structures and facilities.
8. Development projects that are essential to the construction and/or operation of the above uses and activities.

**POLICY 6:** *Expedite existing permit procedures in order to facilitate the siting of development activities at suitable locations.*

**POLICY 7:** *Significant coastal fish and wildlife habitats will be protected and preserved so as to maintain their viability as habitats.*

The range of generic activities most likely to affect significant coastal fish and wildlife habitats include but are not limited to the following:

1. Draining wetlands, ponds: Cause changes in vegetation, or changes in groundwater and surface water hydrology.
2. Filling wetlands, shallow areas of streams, lakes, bays, estuaries: May change physical character of substrate (e.g., sandy to muddy, or smother vegetation, alter surface water hydrology).
3. Grading land: Results in vegetation removal, increased surface runoff, or increased soil erosion and downstream sedimentation.
4. Clear cutting: May cause loss of vegetative cover, increased fluctuations in the amount of surface runoff, or increased streambed scouring, soil erosion, or sediment deposition.
5. Dredging or excavation: May cause change in substrate composition, possible release of contaminants otherwise stored in sediments, removal of aquatic vegetation, or change circulation patterns and sediment transport mechanisms.
6. Dredge spoil disposal: May induce shoaling of littoral areas, or change circulation patterns.
7. Physical alteration of shore areas through channelization or construction of shore structure: May change in volume and rate of flow or increased scouring, sedimentation
8. Introduction, storage or disposal of pollutants such as chemical, petrochemical, solid wastes, nuclear wastes, toxic material, pesticide, sewage effluent, urban and rural runoff, leachate of hazardous and toxic substances stored in landfills: May cause increased mortality or sublethal effects on organisms, alter their reproductive capabilities, or reduce their value as food organisms.

The range of physical, biological and chemical parameters that should be considered include but are not limited to the following:

1. Physical parameters such as: Living space, circulation, flushing rates, tidal amplitude, turbidity, water temperature, depth (loss of littoral zone), morphology, substrate type, vegetation, structure, erosion and sedimentation rates.
2. Biological parameters such as: Community structure, food chain relationships, species diversity, predator/prey relationships, population size, mortality rates, reproductive rates, behavioral patterns, and migratory patterns.

3. Chemical parameters such as: Dissolved oxygen, carbon dioxide, pH, dissolved solids, nutrients, organic salinity, pollutants (heavy metals, toxic and hazardous materials).

### Habitat Impairment Test

A habitat impairment test must be applied to any activity that is subject to consistency review under Federal and State laws, or under applicable local laws contained in the approved New York City Waterfront Revitalization Program. If the proposed action is subject to consistency review, then the habitat protection policy applies, whether the proposed action is to occur within or outside the designated area.

The specific habitat impairment test is as follows.

In order to protect and preserve a designated significant coastal fish and wildlife habitat, land and water uses or development shall not be undertaken if such actions would:

- destroy the designated habitat; or
- significantly impair the viability of a designated habitat.

Habitat destruction is defined as the loss of fish or wildlife use through direct physical alteration, disturbance, or pollution of a designated area or through the indirect effects of these actions on a designated area. Habitat destruction may be indicated by changes in vegetation, substrate, or hydrology, or increases in runoff, erosion, sedimentation or pollutants.

Significant impairment is defined as reduction in vital resources (e.g., food, shelter, living space) or change in environmental conditions (e.g., temperature, substrate, salinity) beyond the tolerance range of important species of fish or wildlife that rely on the habitat values found within the designated area. Indicators of a significantly impaired habitat focus on ecological alterations and may include but are not limited to reduced carrying capacity, changes in community structure (food chain relationships, species diversity), reduced productivity and/or increased incidence of disease and mortality.

The tolerance range of a species of fish or wildlife is not defined as the physiological range of conditions beyond which a species will not survive at all, but as the ecological range of conditions that supports the species population or has the potential to support a restored population, where practical. Either the loss of individuals through an increase in emigration or an increase in death rate indicates that the tolerance range of the species has been exceeded. An abrupt increase in death rate may occur as an environmental factor falls beyond a tolerance limit (a range has both upper and lower limits). Many environmental factors, however, do not have a sharply defined tolerance limit, but produce increasing emigration or death rates with increasing departure from conditions that are optimal for the species.

The range of parameters that should be considered in applying the habitat impairment test include but are not limited to the following:

1. Physical parameters such as living space, circulation, flushing rates, tidal amplitude, turbidity, water temperature, depth (including loss of littoral zone), morphology, substrate type, vegetation, structure, erosion and sedimentation rates;
2. Biological parameters such as community structure, food chain relationships, species diversity, predator/prey relationships, population size, mortality rates, reproductive rates, meristic features, behavioral patterns and migratory patterns; and
3. Chemical parameters such as dissolved oxygen, carbon dioxide, acidity, dissolved solids, nutrients, organic, salinity, and pollutants (heavy metals, toxics and hazardous materials).

Although not comprehensive, examples of generic activities and impacts that could destroy or significantly impair habitat values are provided within the New York State Department of State § 1992 Significant Coastal

Fish and Wildlife Habitat Program document. The Impact Assessment section of that document provides a narrative for each designated habitat in New York City. The habitats are listed as Lemon Creek, Fresh Kills, Pralls Island, Sawmill Creek Marshes, Goethals Bridge Pond, Shooters Island, Lower Hudson Reach, North & South Brother Island, Pelham Bay Park Wetlands, Little Neck Bay, Alley Pond Park, Udall & Cove, Meadow and Willow Lakes, Jamaica Bay, and Breezy Point. This information is provided to assist in applying the habitat impairment test to a proposed activity.

**POLICY 8:** *Protect fish and wildlife resources in the coastal area from the introduction of hazardous waste and other pollutants which bioaccumulate in the foodchain or which cause significant sublethal or lethal effect on those resources.*

**POLICY 9:** *Expand recreational use of fish and wildlife resources in coastal areas by increasing access to existing resources, supplementing existing stocks and developing new resources.*

The following additional guidelines should be considered by State and Federal agencies as they determine the consistency of their proposed action with the above policy:

1. Consideration should be made by Federal and State agencies as to whether an action will impede existing or future utilization of the State's recreational fish and wildlife resources.
2. Efforts to increase access to recreational fish and wildlife resources should not lead to stocks, and expanding aquaculture facilities.

The following additional guidelines should be considered by State and Federal agencies as they determine the consistency of their proposed action with the above policy:

- a. A public agency's commercial fishing development initiative should not preempt or displace private sector initiative.
- b. A public agency's efforts to expand existing or create new on-shore commercial fishing support facilities should be directed towards unmet development needs rather than merely displacing existing commercial fishing activities from a nearby port. This may be accomplished by taking into consideration existing State or regional commercial fishing development plans.
- c. Consideration should be made by State and Federal agencies whether an action will impede existing utilization or future development of the State's commercial fishing resources.
- d. Commercial fishing development efforts should be made in a manner that ensures the maintenance and protection of the renewable fishery resources.

**POLICY 10:** *Further develop commercial finfish, shellfish and crustacean resources in the coastal areas by encouraging the construction or improvement of existing on-shore commercial fishing facilities, increasing marketing of the State's seafood products, maintaining adequate stocks and expanding agricultural facilities.*

#### **POLICIES 11-17: FLOODING AND EROSION**

Natural features such as beaches, bluffs, wetlands, dunes, and near-shore shallow waters absorb wave energy and protect coastlines from wind and waves, storm-induced high water, and other causes of flooding and erosion. The following group of policies address the flooding and erosion concerns for proposed actions in the coastal zone.

**POLICY 11:** *Buildings and other structures will be sited on the coastal area so as to minimize damage to property and the endangering of human lives by flooding and erosion.*

### Flooding

This policy requires compliance with Local Law 33 and Article 10 of the Administrative Code if the action is located in the flood hazard area.

To determine if the proposed action is within the flood hazard area, check the Flood Insurance Rate Maps available at the New York City Department of City Planning or the Federal Emergency Management Agency. If the proposed action is located in an area of the map designated as an "A" zone or a "V" zone, further analysis is needed. The next step is to determine the proposed action's site elevation by converting the elevation identified on the Flood Insurance Rate Maps, based on the National Geodetic Vertical Datum (NGVD) to (NGVD), to the local datum as described in the table below.

National Geodetic Vertical Datum (NGVD) is a vertical control used as a reference for establishing elevations within the flood plain. It is the United States coast and geodetic survey mean sea level datum of 1929. The following table shall be used to convert NGVD to borough datum elevations.

Conversion of NGVD to Borough Datum	
<u>Borough</u>	<u>Conversion Figure</u>
Bronx	+ 2.608
Brooklyn	+ 2.547
Manhattan	+ 2.752
Queens	+ 2.725
Staten Island	+ 3.192

\* Add conversion figure to NGVD to obtain borough datum elevation in feet.

If the action is in the flood hazard area, local law requires that buildings must have the lowest floor (including the basement) elevated or floodproofed to or above the Base Flood Elevation.

The analyst should consider how any project buildings would comply with Local Law 33, and in certain cases, the rationale for the selected flood protection techniques.

### Erosion Hazard Areas

Beaches, boardwalks and shorefront communities are valuable assets that must be protected and maintained. If placed inappropriately and without effective shore protection, these assets can be destroyed or become prohibitively expensive to maintain. In general, non-structural erosion control, including dune building, beach nourishment, and adequate set back from eroding areas is preferred over structural solutions.

Locations of the proposed action should be checked on the Coastal Erosion Hazard Maps to determine if the proposed action is with a Coastal Erosion Hazard Area.

If the proposed action is within a designated Coastal Erosion Hazard Area, the proposed action will be subject to the restrictions pursuant to Coastal Erosion Management Regulations, 6 NYCRR Part 505.

NEW YORK CITY POLICY C: Provide shorefront protection against coastal erosion hazards where there is public benefit and public use along non-public shores.

NEW YORK CITY POLICY D: Provide technical assistance for the identification and evaluation of erosion problems, as well as the development of erosion control plans along privately owned erosion shores.

NEW YORK CITY POLICY E: Implement public and private structural flood and erosion control projects only when:

- Public economic and environmental benefits exceed public economic and environmental costs;
- Nonstructural solutions are proven to be ineffective or cost prohibitive;
- Projects are compatible with other coastal management goals and objectives, including aesthetics, access and recreation;
- Adverse environmental impacts are minimized;
- Natural protective features are not impaired; and
- Adjacent (downdrift) shorelines are not adversely affected.

POLICY 12: Activities or development in the coastal area will be undertaken so as to minimize their adverse effects upon natural features which protect against flooding and erosion.

POLICY 13: The construction or reconstruction of erosion protection structures shall be undertaken only if they have a reasonable probability of controlling erosion for at least thirty years as demonstrated in design and construction standards and/or assured maintenance or replacement programs.

POLICY 14: The activities and development including the construction or reconstruction of erosion protection structures, shall be undertaken so that there will be no measurable increase in erosion nor flooding at the site of such activities nor development at other locations.

POLICY 15: Mining, excavation, or dredging in coastal waters shall not significantly interfere with the natural coastal processes which supply beach materials to land adjacent to such waters and shall be undertaken in a manner which will not cause an increase in erosion of such lands.

Information about erosion is provided in Section 3I, "Natural Resources."

POLICY 16: Public funds shall be expended for activities and development, including the construction or reconstruction of erosion control structures, only where the public benefits clearly outweigh their long-term monetary and other costs including their potential for increasing erosion and their adverse effects on natural protective features.

POLICY 17: Non-structural measures to minimize damage to natural resources and property from flooding and erosion shall be used whenever possible.

## POLICIES 18-25: THE PUBLIC WATERFRONT

Historically, the public right of access to and use of the foreshore and waters—the public trust doctrine as it has been termed—is based on the conviction that the "wet sand" between high and low water, underwater land and the water itself has unique characteristics associated with a public purpose.

Concurrent with the public trust, the riparian owner (the owner of land adjoining the water) had the right of access to the lands under water to build a dock or pier from the upland, and the right to make other improvements that would allow navigation, fishing or recreation.

The common law recognized that the public trust and the riparian rights of private owners often were in conflict. As cases came to the courts, the balance shifted with the circumstances. In recent years, the public trust doctrine has evolved to include recreation, aesthetic enjoyment, and environmental protection in addition to the historic considerations of fishing and navigation. Although the New York courts have not articulated this definition of the public trust in a detailed manner, the expanded definition of public access should be recognized as part of New York law.

***POLICY 18:** To safeguard the vital interest of the State of New York and of its citizens in the waters and other valuable resources of the State's coastal area, all practicable steps shall be taken to ensure that such interests are accorded full consideration in the deliberations, decisions and actions of State and Federal bodies with authority over those waters and resources.*

***POLICY 19:** Protect, maintain and increase the level and types of access to public water-related recreation resources.*

As set forth in the Comprehensive Waterfront Plan, an overriding principle of planning today is to re-establish the public's connection to the waterfront by creating new opportunities for visual, physical, and recreational access. This goal can be realized in various ways: by extending and improving a network of public spaces through parks, street ends and numerous publicly owned properties along the shoreline; and by enhancing and connecting these spaces with public access along the waterfront on private properties where compatible redevelopment is taking place.

The following State guidelines will be used in determining the consistency of a proposed action with this policy:

1. The existing access from adjacent or proximate public lands or facilities to public water-related recreation resources and facilities shall not be reduced, nor shall the possibility of increasing access in the future from adjacent or proximate public lands or facilities to public water-related recreation resources and facilities be eliminated, unless in the latter case, estimates of future use of these resources and facilities are too low to justify maintaining or providing increased public access.

The following is an explanation of the terms used in the above guidelines:

- a. Access—the ability and right of the public to reach and use public coastal lands and waters.
- b. Public water-related recreation resources of facilities—all public lands or facilities that are suitable for passive or active recreation that requires either water or a waterfront location or is enhanced by a waterfront location.
- c. Public lands or facilities—lands or facilities held by State or local government in fee simple or less-than-fee simple ownership and to which the public has access or could have access, including underwater lands and the foreshore.

- d. A reduction in the existing level of public access—includes but is not limited to the following:
- (1) The number of parking spaces at a public water-related recreation resource or facility is significantly reduced.
  - (2) The service level of public transportation to a public water-related recreation resource or facility is significantly reduced during peak season use and such reduction cannot be reasonably justified in terms of meeting systemwide objectives.
  - (3) Pedestrian access is diminished or eliminated because of hazardous crossings required at new or altered transportation facilities, electric power transmission lines, or similar linear facilities.
  - (4) There are increases in the following: already existing special fares of public transportation to a public water-related recreation resource or facility; and/or admission fees to such a resource or facility, and an analysis shows that such increases will significantly reduce usage by individuals or families with incomes below the State government established poverty level.
- e. An elimination of the possibility of increasing public access in the future includes, but is not limited to the following:
- (1) Construction of public facilities that physically prevent the provision, except at great expense, of convenient public access to public water-related recreation resources and facilities.
  - (2) Sale, lease, or other transfer of public lands that could provide public access to public water-related recreation resources and facilities.
  - (3) Construction of private facilities that physically prevent the provision of convenient public access to public water-related recreation resources or facilities from public lands and facilities.
2. Any proposed project to increase public access to public water-related recreation resources and facilities shall be analyzed according to the following factors:
- a. The level of access to be provided should be in accord with estimated public use. If not, the proposed level of access to be provided shall be deemed inconsistent with the policy.
  - b. The level of access to be provided shall not cause a degree of use that would exceed the physical capability of the resource or facility. If this were determined to be the case, the proposed level of access to be provided shall be deemed inconsistent with the policy.
3. The State will not undertake or fund any project that increases access to a water-related resource or facility that is not open to all members of the public.
4. In their plans and programs for increasing public access to public water-related resources and facilities, State agencies shall give priority in the following order to projects located: within the boundaries of the Federal-Aid Metropolitan Urban Area and served by public transportation; within the boundaries of the Federal-Aid Metropolitan Urban Area but not served by public transportation; outside the defined Urban Area boundary and served by public transportation; and outside the defined Urban Area boundary but not served by public transportation.

Consideration may be given to the following guidance on the provision of public access:

- Public Access should feel public.
- Public Access should be useable.
- Site design should provide, maintain, and enhance visual access and visual quality of the waterfront.
- Public access shall be continuous where appropriate and possible.

- Public access should be designed for durability and low maintenance.
- Public access should maintain safety and security.
- Design of public access should have minimum impact on fragile environments.
- Design of public access should provide distinction between public and private spaces.
- The New York City waterfront symbol should be used to indicated public access (see New York City Waterfront Symbols Guidelines).

***POLICY 20: Access to the publicly owned foreshore or water's edge, and to the publicly owned lands immediately adjacent to these areas shall be provided, and it shall be provided in a manner compatible with the adjoining uses. To ensure that such lands remain available for public use, they will be retained in public ownership.***

The following State coastal policy guidelines will be used in determining the consistency of a proposed action with this policy:

1. Existing access from adjacent or proximate public lands or facilities to existing public coastal lands and/or waters shall not be reduced, nor shall the possibility of increasing access in the future from adjacent or nearby public lands or facilities to public coastal lands and/or waters be eliminated, unless such actions are demonstrated to be of overriding regional or Statewide public benefit, or in the latter case, estimates of future use of these lands and waters are too low to justify maintaining or providing increased access.

The following is an explanation of the terms in the above guidelines:

- a. (See definitions under Policy 19 for "access" and "public lands or facilities").
  - b. A reduction in the existing level of public access—includes but is not limited to the following:
    - (1) Pedestrian access is diminished or eliminated because of hazardous crossings required at new or altered transportation facilities, electric power transmission lines, or similar linear facilities.
    - (2) Pedestrian access is diminished or blocked completely by public or private development.
  - c. An elimination of the possibility of increasing public access in the future—includes but is not limited to, the following:
    - (1) Construction of public facilities that physically prevent the provision, except at great expense, of convenient public access to public coastal lands and/or waters.
    - (2) Sale, lease, or other conveyance of public lands that could provide public access to public coastal lands and/or waters from public lands and facilities.
    - (3) Construction of private facilities that physically prevent the provision of convenient public access to public coastal lands and/or waters from public lands and facilities.
2. The existing level of public access within public coastal lands or waters shall not be reduced or eliminated. A reduction or elimination in the existing level of public access—includes but is not limited to the following:
    - a. Access is reduced or eliminated because of hazardous crossings required at new or altered transportation lines, or similar linear facilities.
    - b. Access is reduced or blocked completely by any public development.

3. Public access from the nearest public roadway to the shoreline and along the coast shall be provided by new land use or development except where (a) it is inconsistent with public safety, military security, or the protection of identified fragile coastal resources; (b) adequate access exists within one-half mile; or (c) agriculture would be adversely affected. Such access shall not be required to be open to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.
4. The State will not undertake or fund any project that increases access to a water-related resource or facility that is not open to all members of the public.
5. In their plans and programs for increasing public access, State agencies shall give priority in the following order to projects located; within the boundaries of the Federal-Aid Metropolitan Urban Area but not served by public transportation; within the Federal-Aid Metropolitan Urban Area but not served by public transportation; outside the defined Urban Area boundary and served by public transportation; outside the defined Urban Area boundary and served by public transportation; and outside the defined Urban Area boundary but not served by public transportation.
6. Proposals for increased public access to coastal lands and waters shall be analyzed according to the following factors:
  - a. The level of access to be provided should be in accord with estimated public use. If not, the proposed level of access to be provided shall be deemed inconsistent with the policy.
  - b. The level of access to be provided shall not cause a degree of use that would exceed the physical capability of the coastal lands or waters. If this were determined to be the case, the proposed level of access to be provided shall be deemed inconsistent with the policy.

**POLICY 21:** *Water-dependent and water-enhanced recreation will be encouraged and facilitated, and will be given priority over non-water-related uses along the coast.*

Water-related recreation includes such obviously water-dependent activities as boating, swimming, and fishing as well as certain activities that are enhanced by a coastal location and increase the general public's access to the coast such as pedestrian and bicycle trails, picnic areas, scenic overlooks and passive recreation areas that take advantage of coastal scenery.

Provided the development of water-related recreation is consistent with the preservation and enhancement of such important coastal resources as fish and wildlife habitats, aesthetically significant areas, historic and cultural resources, agriculture and significant mineral and fossil deposits, and provided demand exists, water-related recreation development is to be increased and such uses shall have a higher priority than any non-coastal dependent uses, including non-water-related recreation uses. In addition, water-dependent recreation uses shall have a higher priority over water-enhanced recreation uses. Determining a priority among coastal-dependent uses will require a case-by-case analysis.

Among priority areas for increasing water-related recreation opportunities are those areas where access to the recreation opportunities of the coast can be provided by new or existing public transportation services and those areas where the use of the shore is severely restricted by highways, railroads, industry, or other forms of existing intensive land use or development. The New York State Department of State, working with the Office of Parks, Recreation and Historic Preservation and with local governments, will identify communities whose use of the shore has been so restricted and those sites shoreward of such developments that are suitable for recreation and can be made accessible. Priority shall be given to recreational development of such lands.

The siting or design of new public development in a manner that would result in a barrier to the recreational use of a major portion of a community's shore should be avoided as much as practicable.

Among the types of water-dependent recreation, provision of adequate boating services to meet future demand is to be encouraged by this Program. The siting of boating facilities must be consistent with preservation and enhancement of other coastal resources and with their capacity to accommodate demand. The provision of new public boating facilities is essential in meeting this demand, but such public actions should avoid competition with private boating development. Boating facilities will, as appropriate, include parking, park-like surroundings, toilet facilities, and pumpout facilities. Harbors of Refuge are particularly needed for a better locational pattern of boating facilities to correct problems of overused, insufficient, or improperly sited facilities.

Also to be encouraged is non-motorized recreation in the State's coastal area. Water-related off-road recreational vehicle use is an acceptable activity, provide no adverse environmental impacts occur. Where adverse environmental impacts will occur, mitigating measures will be implemented, where practicable to minimize such adverse impacts. If acceptable mitigation is not practicable, prohibition or the use by off-road recreational vehicles will be posted and enforced.

In addition to the policy explanation above, consideration may be given to the Comprehensive Waterfront Plan and other waterfront policies and plans. A goal of the plan is to promote the use of the waterfront for activities that need to be at the water's edge or that enliven it. Three categories of uses should be applied in the review of proposed actions:

- Water-dependent uses are those that require direct access or proximity to marine or tidal waters in order to function.
- Waterfront-enhancing uses are primarily recreational, cultural, retail, or entertainment uses whose location on the waterfront would add to public use and enjoyment of the water's edge.
- Non-water-related uses include all uses that do not require a waterfront location and whose location at the water's edge would not automatically add to public use or enjoyment of the waterfront.

The Comprehensive Waterfront Plan distinguishes between uses that enliven the public aspect of the waterfront and uses that derive some benefit from the waterfront location, including economic benefit. Water-enhancing areas will be given priority after water-dependent uses.

NEW YORK CITY POLICY F: *Priority shall be given to the development of mapped parklands and appropriate open space where the opportunity exists to meet the recreational needs of:*

- *Immobile user groups; and*
- *Communities without adequate waterfront park space and/or facilities.*

According to the Comprehensive Waterfront Plan, as parks are developed or redesigned, waterfront access and water-related activity can be incorporated into the plans. In some large or hilly parks, the shoreline is far away or inaccessible from centers of activity inside or outside the park. Because safety is an important concern, waterfront areas must be visually and physically connected to centers of activity, with frequent, direct and safe paths to supervised areas or public streets.

NEW YORK CITY POLICY G: *Maintain and protect New York City beaches to the fullest extent possible.*

Beach nourishment programs include Coney Island and the Rockaway Peninsula. Consideration is being given to Staten Island's south and east shores. Case-by-case projects have been undertaken as needed, such as nourishment projects at Orchard Beach.

POLICY 22: *Development when located adjacent to the shore will provide for water-related recreational activities whenever such recreational use is appropriate in light of reasonably anticipated demand for such activities, and the primary purpose of the development.*

Under Policy 22, the types of development that can generally provide water-related recreation as a multiple use include but are not limited to:

- Parks
- Highways
- Power plants
- Utility transmission rights-of-way
- Sewage treatment facilities
- Mental health facilities
- Hospitals
- Prisons
- Schools, universities
- Military facilities
- Nature preserves
- Large residential subdivisions (50 units)
- Shopping centers
- Office buildings

Appropriate recreation uses that do not require any substantial additional construction shall be provided at the expense of the project sponsor provided the cost does not exceed 2 percent of total project cost.

POLICY 23: *Protect, enhance, and restore structures, districts, areas, or sites that are of significance in the history, architecture, archaeology, or culture of the State, its communities, or the nation.*

The structures, districts, areas, or sites that are of significance in the history, architecture, archaeology or culture of the State, its communities, or the Nation comprise the following resources:

- (a) A resource that is in a Federal or State park established, among other reasons, to protect and preserve the resource.
- (b) A resource on, nominated to be on, or determined eligible to be on the National or State Register of Historic Places.

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The types of recreation uses likely to be compatible with these facilities are limited to the more passive forms, such as trails or fishing access. In some cases, land areas not directly or immediately needed by the facility could be used for recreation.

- (c) A resource on or nominated to be on the State Nature and Historic Preserve Trust.
- (d) An archeological resource that is on the State Department of Education § inventory of archeological sites.
- (e) A local landmark, park, or locally designated historic district that is located within the boundary of an approved local waterfront revitalization program.
- (f) A resource that is a significant component of an Urban Cultural Park.

All practicable means shall be considered and adopted to prevent a significant adverse change to these resources. A significant adverse change includes but is not limited to:

- (a) Alteration of or addition to one or more of the architectural, structural, ornamental or functional features of a building, structure, or site that is a recognized historic, cultural, or archeological resource, or component thereof. Such features are defined as encompassing the style and general arrangement of the exterior of a structure and any original or historically significant interior features including type, color, and texture of building materials, entryways, and doors; fenestration; lighting fixtures; roofing; sculpture and carving; steps rails; fencing; windows; vents and other openings; grillwork; signs; canopies; and other appurtenant fixtures and, in addition, all buildings, structures, outbuildings, walks, fences, steps, topographical feature, earthworks, paving, and signs located on the designated resource property. (To the extent they are relevant, the Secretary of the Interior § "Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings" shall be followed).
- (b) Demolition or removal in full or part of a building, structure, or earthworks that is a recognized historic, cultural, or archeological resource or component thereof, to include all those features described in (a) above plus any other appurtenant fixture associated with a building structure or earthwork.
- (c) All proposed actions within 500 feet of the perimeter of the property boundary of the historic, architectural, cultural, or archeological resource and all actions within an historic district that would be incompatible with the objective of preserving the quality and integrity of the resource. Primary considerations to be used in making judgment about compatibility should focus on the visual and locational relationship between the proposed actions and the special character of the historic, cultural, or archeological resource. Compatibility between the proposed action and the resource means that the general appearance of the resource should be reflected in the architectural style, design material, scale, proportion, composition, mass, line, color, texture, detail, setback, landscaping, and related items of the proposed actions. With historic districts this would include infrastructure improvements or changes, such as street and sidewalk paving, street furniture, and lighting.

NEW YORK CITY POLICY H: *Insure ongoing maintenance of all waterfront parks and beaches to promote full use of secure, clean areas with fully operable facilities.*

POLICY 24: *Prevent impairment of scenic resources of Statewide significance.*

Consideration may be given to the Comprehensive Waterfront Plan that states that views to and along the water add to the economic value of development and to the quality of life in both public and private spaces. Skylines, bridges, and landmarks are perhaps most memorable when reflected in the water against a changing sky. Waterfronts are among the few places in the City that offer wide vistas.

The Coastal Management Program will identify on the coastal area map scenic resources of Statewide significance. The following general criteria will be combined to determine significance:

- **Quality.** The basic elements of design (i.e., two-dimensional line, three-dimensional form, texture, and color) combine to create all high quality landscapes. The water, landforms, and built components of scenic coastal landscapes exhibit variety of line, form, texture, and color. This variety is not, however, so great as to be chaotic. Scenic coastal landscapes also exhibit unity of components. This unity is not, however, so complete as to be monotonous. Example: the Thousand Islands where the mix of water, land, vegetative and man-made components creates interesting variety, while the organization of these same components creates satisfying unity.

Often, high-quality landscapes contain striking contrasts between lines, forms, textures and colors. Example: A waterfall where horizontal and vertical lines and smooth turbulent textures meet in dramatic juxtaposition.

Finally, high-quality landscapes are generally free of discordant features, such as structures or other elements that are inappropriate in terms of siting, form, scale, and/or materials.

- **Uniqueness.** The uniqueness of high-quality landscapes is determined by the frequency of occurrence of similar resources in a region of the State or beyond.
- **Public Accessibility.** A scenic resource of significance must be visually and, where appropriate, physically accessible to the public.
- **Public Recognition.** Widespread recognition of a scenic resource is not a characteristic intrinsic to the resource. It does, however, demonstrate people's appreciation of the resource for its visual, as well as evocative, qualities. Public recognition serves to reinforce analytic conclusions about the significance of a resource.

When considering a proposed action, agencies shall first determine whether the action could affect a scenic resource of Statewide significance. This determination would involve 1) a review of the coastal area map to ascertain if it shows an identified scenic resource that could be affected by the proposed action, and 2) a review of the types of activities proposed to determine if they would be likely to impair the scenic beauty of an identified resource.

Impairment will include: (i) the irreversible modification of geologic forms; the destruction or removal of vegetation; the modification, destruction, or removal of structures, whenever the geological forms, vegetation, or structures are significant to the scenic quality of an identified resource; and (ii) the addition of structures that because of siting or scale will reduce identified views or that because of scale, form, or materials will diminish the scenic quality of an identified resource.

The following siting and facility-related guidelines are to be used to achieve this policy, recognizing that each development situation is unique and that the guidelines will have to be applied accordingly. Guidelines include:

- Siting structures and other development such as highways, power lines, and signs, back from shorelines or in other inconspicuous locations to maintain the attractive quality of the shoreline and to retain views to and from the shore;
- Clustering orienting structures to retain views, save open space and provide visual organization to a development;
- Incorporating sound, existing structures (especially historic buildings) into the overall development scheme;
- Removing deteriorated and/or degrading elements;
- Maintaining or restoring the original land form, except when changes screen unattractive elements and/or add appropriate interest;

- Maintaining or adding vegetation to provide interest, encourage the presence of wildlife, blend structures into the site, and obscure unattractive elements, except when selective clearing removes unsightly, diseased, or hazardous vegetation and when selective clearing creates views of coastal waters;
- Using appropriate materials, in addition to vegetation, to screen unattractive elements; and
- Using appropriate scales, forms, and materials to ensure that buildings and other structures are compatible with and interest to the landscape.

POLICY 25: *Protect, restore and enhance the natural and man-made resources which are not identified as being of Statewide significance but which contribute to the overall scenic quality of coastal area.*

The siting and design guidelines listed under Policy 24 should be considered for proposed actions in the general coastal area. More emphasis may need to be placed on removal of existing elements, especially those that degrade the coastal area scenic quality, and on addition of new elements or other changes, that enhance the coastal area scenic quality. Removal of vegetation at key points to improve visual access to coastal waters is one such change that might be expected to enhance scenic quality.

POLICY 26: *Conserve and protect agricultural lands in the State's coastal area.*

NOT APPLICABLE IN NEW YORK CITY

POLICY 27: *Decision on the siting and construction of major energy facilities in the coastal area will be based on public energy needs, compatibility of such facilities with the environment and the facility's need for a shorefront location.*

NEW YORK CITY POLICY I: *Siting of liquified and substitute natural gas facilities, including those associated with the tankering of such gas, shall take into consideration State and national energy needs, public safety concerns and the necessity for a shorefront location.*

POLICY 28: *Ice management practices shall not damage significant fish and wildlife and their habitats, increase shoreline erosion or flooding or interfere with the production of hydroelectric power.*

POLICY 29: *Encourage the development of energy resource on the outer continental shelf (OCS) and in other water bodies and ensure the environmental safety of such activities.*

POLICY 30: *Municipal, industrial, and commercial discharge of pollutants, including but not limited to, toxic and hazardous substances, into coastal waters will conform to State water quality standards.*

POLICY 31: *State coastal area policies and management objectives of approved local waterfront revitalization programs will be considered while reviewing coastal water classifications and while modifying water quality standards; however, those waters already overburdened with contaminants will be recognized as being a development constraint.*

**POLICY 32:** *Encourage the use of alternative or innovative sanitary waste systems in smaller communities where the cost of conventional facilities are unreasonably high, given the size of the existing tax base of these communities.*

**POLICY 33:** *Best management practices will be used to ensure the control of stormwater runoff and combined sewer overflows draining into coastal waters.*

**POLICY 34:** *Discharge of waste material into coastal waters from vessels under the State's jurisdiction will be limited so as to protect significant fish and wildlife habitats, recreational areas and water supply areas.*

**POLICY 35:** *Dredging and dredge spoil disposal in coastal waters will be undertaken in a manner that meets existing State dredging permit requirements and protects significant fish and wildlife habitats, aesthetic resources, natural protective features, important agricultural lands and wetlands.*

**POLICY 36:** *Activities related to the shipment and storage of petroleum and other hazardous materials will be conducted in a manner that will prevent or at least minimize spills into coastal waters: all practicable efforts will be undertaken to expedite the cleanup of such discharges; and restitution for damages will be required when these spills occur.*

**POLICY 37:** *Best management practices will be utilized to minimize the non-point discharge of excess nutrients, organics, and eroded soils into coastal waters.*

Consideration may be given to the Comprehensive Waterfront Plan, which states that non-point pollution is caused by runoff from land surfaces. Runoff comes from residential lawns, highways and urban streets, seeping septic tanks, leaking landfills, construction sites, and chemical spills. New York City's Local Law 7 (Section P110.0) sets standards for the design of stormwater systems. The Department of Environmental Protection is embarking on a program to identify and classify stormwater discharges resulting in water quality impairment and develop management standards to control them.

**POLICY 38:** *The quality and quantity of surface water and groundwater supplies will be conserved and protected particularly where such waters constitute the primary sole source of water supply.*

**POLICY 39:** *The transport, storage, treatment, and disposal of solid wastes, particularly hazardous wastes, within coastal areas will be conducted in such a manner so as to protect groundwater and surface waters supplies, significant fish and wildlife habitats, recreational areas, important agricultural lands, and scenic resources.*

The Federal Water Pollution Control Act requires all waters of the United States to be fishable and swimmable to the maximum extent practicable. See Section 3I, "Natural Resources," in this Manual.

**NEW YORK CITY POLICY J:** *Adopt end-use plans for landfill areas which specify the following:*

- *Final capacity.*
- *Final contours.*
- *Leachate, erosion, and gas control systems.*

- *Re-vegetation strategies.*
- *Interim review schedules.*

NEW YORK CITY POLICY K: *Curtail illegal dumping throughout the coastal zone and restore areas scarred by this practice.*

Consideration may be given to the Comprehensive Waterfront Plan, which states that wetlands outside of City, State, and Federal parklands lacking a clear jurisdictional responsibility are often treated as a no-man's land subject to illegal fill, unsightly dumping, and vandalism. Some of these wetlands will eventually be annexed to adjacent parks.

In addition, the plan calls for City agencies, including the Departments of Sanitation, Transportation, Parks and Recreation, and Environmental Protection, to pursue a clean-up and guardrail program designed to stop illegal access and dumping in the most vulnerable wetlands. The City should explore using the Department of General Services' Land Reclamation Program, which cleans and "greens" large tracts of vacant, innercity land to maintain wetland areas unsuitable for parkland.

NEW YORK CITY POLICY L: *Encourage energy development from waste and waste landfills.*

POLICY 40: *Effluent discharged from major steam electric generating and industrial facilities into coastal waters will not be unduly injurious to fish and wildlife and will conform to State water quality standards.*

POLICY 41: *Land use or development in the coastal area will not cause national or State air quality standards to be violated.*

Where feasible, the Comprehensive Waterfront Plan encourages an increased role for the use of waterborne and rail freight to help improve air quality.

POLICY 42: *Coastal management policies will be considered if the State reclassifies land areas pursuant to the prevention of significant deterioration regulations of the Federal Clean Air Act.*

POLICY 43: *Land use or development in the coastal area must not cause the generation of significant amounts of the acid rain precursors: nitrates and sulfates.*

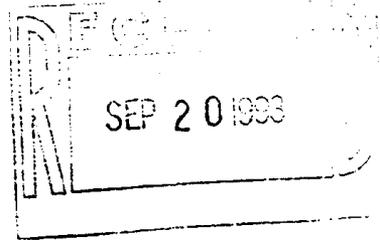
POLICY 44: *Preserve and protect tidal and freshwater wetlands and preserve the benefits derived from these areas.*

The Comprehensive Waterfront Plan points out that although wetlands are regulated by several agencies, overlapping and often confusing regulatory regimes may not adequately protect them. For example, the U.S. Army Corps of Engineers does not regulate adjacent areas, and DEC does not regulate upland areas adjacent to wetlands if they are the result of fill and are more than 10 feet above sea level. Construction in these unregulated areas can generate runoff and other disturbances that may harm adjacent wetlands. Even when regulated, some buffer areas may not be deep enough to protect the wetland ecosystem, which may contain important grassland and woodland habitats. See Section 3I, "Natural Resources," in this Manual.



The New York State Office of Parks,  
Recreation and Historic Preservation  
Field Services Bureau  
Post Office Box 189, Peebles Island  
Waterford, New York 12188-0189

PRESORTED  
FIRST CLASS



Janet L. Sillings

State Director, Wildlife Services NJ/PA/LI& NYC

Animal Damage Control

RD#2, Box 360-C Locust Grove Road

Pittstown, NJ 08867-9529

08867-9529



USDA GULL HAZARD REDUCTION-JFK AIRPORT JAMAICA

Agency/Project Name

QUEENS, QUEENS COUNTY

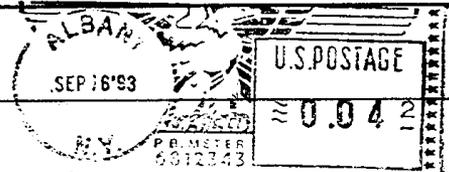
Township/County

SEPTEMBER 13, 1993 93PR1750

Date

OPRHP Project Review Number

PRESORTED  
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Dear Ms. Sillings,

The New York State Historic Preservation Officer (SHPO) has reviewed the materials you submitted in accordance with the relevant implementing regulations. Based upon this review, it is the opinion of the SHPO your project will have no effect/impact on those characteristics of the property which would qualify it for inclusion in the State and National Registers of Historic Places.

This notification certifies your compliance with the Federal §106 and/or State §14.09 Preservation Laws. This card should be retained in your files to demonstrate compliance with these laws at any future date. If you need any additional information regarding this project, please contact the Project Review Unit of the Field Services Bureau at 518/237-8643. Please cite the above-referenced OPRHP Project Review Number on any future inquiries.



Sincerely,

*Julia S. Stokes*  
Julia S. Stokes

Deputy Commissioner for Historic Preservation

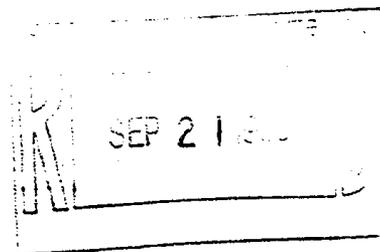


# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
3817 Luker Road  
Cortland, New York 13045

September 16, 1993



Ms. Janet L. Sillings  
State Director, ADC NJ/PA/LI&NYC  
RD#2, Box 360-C  
Locust Grove Road  
Pittstown, NJ 08867-9529

Dear Ms. Sillings:

This responds to your letter of August 17, 1993, requesting information on the presence of endangered or threatened species in the vicinity of the John F. Kennedy International Airport and the Jamaica Bay Wildlife Refuge, Queens and Kings Counties, New York.

Except for occasional transient individuals, no Federally listed or proposed endangered or threatened species under our jurisdiction are known to exist in the project impact area. Therefore, no Biological Assessment or further Section 7 consultation under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) is required with the U.S. Fish and Wildlife Service (Service). Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered. An updated compilation of Federally listed and proposed endangered and threatened species in New York is enclosed for your information.

The above comments pertaining to endangered species under our jurisdiction are provided pursuant to the Endangered Species Act. This response does not preclude additional Service comments under the Fish and Wildlife Coordination Act or other legislation.

For additional information on fish and wildlife resources or State-listed species, we suggest you contact:

New York State Department  
of Environmental Conservation  
Region 2  
47-40 21st Street  
Long Island City, NY 11101  
(718) 482-4900

New York State Department  
of Environmental Conservation  
Significant Habitat Unit  
Information Services  
700 Troy-Schenectady Road  
Latham, NY 12110-2400  
(518) 783-3932

If you have any questions regarding this letter, contact Tom McCartney at (607) 753-9334.

Sincerely,

*Mark W. Clough*  
**ACTING FOR**

David A. Stilwell  
Acting Field Supervisor

Enclosure

cc: NYSDEC, Long Island City, NY (Regulatory Affairs)  
NYSDEC, Latham, NY  
NPS, Gateway National Recreation Area, Brooklyn, NY

**FEDERALLY LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES  
IN NEW YORK**

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>	<u>Distribution</u>
<u>FISHES</u>			
Sturgeon, shortnose*	<i>Acipenser brevirostrum</i>	E	Hudson River & other Atlantic coastal rivers
<u>REPTILES</u>			
Turtle, green*	<i>Chelonia mydas</i>	T	Oceanic summer visitor coastal waters
Turtle, hawksbill*	<i>Eretmochelys imbricata</i>	E	Oceanic summer visitor coastal waters
Turtle, leatherback*	<i>Dermochelys coriacea</i>	E	Oceanic summer resident coastal waters
Turtle, loggerhead*	<i>Caretta caretta</i>	T	Oceanic summer resident coastal waters
Turtle, Atlantic ridley*	<i>Lepidochelys kempii</i>	E	Oceanic summer resident coastal waters
<u>BIRDS</u>			
Eagle, bald	<i>Haliaeetus leucocephalus</i>	E	Entire state
Falcon, peregrine	<i>Falco peregrinus</i>	E	Entire state - re- establishment to former breeding range in progress
Plover, piping	<i>Charadrius melodus</i>	E T	Great Lakes Watershed Remainder of coastal New York
Tern, roseate	<i>Sterna dougallii dougallii</i>	E	Southeastern coastal portions of state
<u>MAMMALS</u>			
Bat, Indiana	<i>Myotis sodalis</i>	E	Entire state
Cougar, eastern	<i>Felis concolor cougar</i>	E	Entire state - probably extinct
Whale, blue*	<i>Balaenoptera musculus</i>	E	Oceanic
Whale, finback*	<i>Balaenoptera physalus</i>	E	Oceanic
Whale, humpback*	<i>Megaptera novaeangliae</i>	E	Oceanic
Whale, right*	<i>Eubalaena glacialis</i>	E	Oceanic
Whale, sei*	<i>Balaenoptera borealis</i>	E	Oceanic
Whale, sperm*	<i>Physeter catodon</i>	E	Oceanic
<u>MOLLUSKS</u>			
Snail, Chittenango ovate amber	<i>Succinea chittenangoensis</i>	T	Madison County
Mussel, dwarf wedge	<i>Alasmidonta heterodon</i>	E	Orange County - lower Neversink River

\* Except for sea turtle nesting habitat, principal responsibility for these species is vested with the National Marine Fisheries Service.

**FEDERALLY LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES  
IN NEW YORK (Cont'd)**

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>	<u>Distribution</u>
<b><u>BUTTERFLIES</u></b>			
Butterfly, Karner blue	<i>Lycaeides melissa samuelis</i>	E	Albany, Saratoga, Warren, and Schenectady Counties
<b><u>PLANTS</u></b>			
Monkshood, northern wild	<i>Aconitum noveboracense</i>	T	Ulster, Sullivan, and Delaware Counties
Pogonia, small whorled Swamp pink	<i>Isotria medeoloides</i> <i>Helonias bullata</i>	E T	Entire state Staten Island - presumed extirpated
Gerardia, sandplain Fern, American hart's-tongue	<i>Agalinis acuta</i> <i>Phyllitis scolopendrium</i> var. <i>americana</i>	E T	Nassau and Suffolk Counties Onondaga and Madison Counties
Orchid, eastern prairie fringed	<i>Platanthera leucophea</i>	T	Not relocated in New York
Bulrush, northeastern	<i>Scirpus ancistrochaetus</i>	E	Not relocated in New York
Roseroot, Leedy's	<i>Sedum integrifolium</i> ssp. <i>Leedyi</i>	T	West shore of Seneca Lake
Amaranth, seabeach	<i>Amaranthus pumilus</i>	T	Atlantic coastal plain beaches

E=endangered    T=threatened    P=proposed

## **APPENDIX F**



EXECUTIVE OFFICE OF THE PRESIDENT  
COUNCIL ON ENVIRONMENTAL QUALITY  
WASHINGTON, D.C. 20503

June 25, 1993

Mr. Carl Bausch  
Deputy Director  
Environmental Analysis and Documentation  
Animal and Plant Health Inspection Service  
Department of Agriculture  
Federal Building, Room 842  
6505 Belcrest Road  
Hyattsville, Maryland 20782

Dear Mr. Bausch:

I am writing in response to your letter of May 7, 1993, informing the Council on Environmental Quality (CEQ) of the existence of emergency circumstances identified by the Federal Aviation Administration (FAA) in regards to the presence of Laughing Gull-aircraft interactions on the grounds of the John F. Kennedy International Airport (JFK) in New York City. Your letter states that the Animal and Plant Health Inspection Service (APHIS) has, for a number of years, conducted bird control activities at JFK, including shooting Laughing Gulls. Over the past two years, between twenty to thirty thousand Laughing Gulls have been shot; APHIS anticipates the need to shoot several thousand more this summer.

The 1992 shooting program was the subject of an environmental assessment (EA). In the fall of 1992, APHIS initiated the preparation of a programmatic EIS for the gull control program at JFK. The National Park Service and the Fish and Wildlife Service are cooperating agencies with APHIS for the programmatic EIS, which is intended to satisfy both the requirements of NEPA and the New York State Environmental Quality Review Act.<sup>1</sup> Beginning in April, 1993, the Federal Aviation

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<sup>1</sup>. The shooting of the Laughing Gulls at JFK was the subject of a lawsuit filed in 1992 against the New York State Department of Environmental Conservation (DEC). Fund for Animals v. Jorling, Index No. 018325. The lawsuit was settled with an agreement that the DEC would require the preparation of an EIS before issuing or modifying a license which permitted further killing of the gulls, subject to the provisions of the emergency exemption under the New York State Environmental Quality Act. The New York DEC issued another permit to the Animal Damage Control unit of APHIS for the shooting of laughing gulls on May

Administration (FAA) expressed, in a series of letters, the opinion that an "urgent situation arises at JFK which requires the taking of emergency actions which are immediately necessary on a limited and temporary basis for the protection or preservation of life, health, property, or natural resources."<sup>2</sup>

In your letter to CEQ, you indicated that APHIS was preparing an EA for the emergency program of shooting laughing gulls from May - August, 1993. That EA has now been completed and has been made available for public comment through publication of notices in local newspapers. Further, APHIS has begun the scoping process for the programmatic EIS, and has stated that, "In no event will the action that APHIS must take in this emergency extend beyond the actual duration of emergency circumstances."<sup>3</sup>

As you know, the shooting of the Laughing Gulls commenced after notification to CEQ, but prior to completion of consultation with CEQ. During this interval, we have reviewed the 1992 EA, the 1993 EA, and the Final Report on "Birds and the Potential for Bird Strikes at John F. Kennedy International Airport" submitted by the Department of Forestry and Wildlife Management at the University of Massachusetts (September, 1991). On June 2, 1993, I visited the JFK property and flew over the Jamaica Bay Unit of the Gateway National Recreation Area, and met with representatives of APHIS, including the Animal Damage Control Program, the Port Authority of New York and New Jersey, the New York State Department of Environmental Conservation, the National Park Service, and the FAA. Additionally, I or members of my staff have had telephone conversations with representatives of the involved agencies and other interested parties.

After reviewing this situation, we have come to several conclusions, set out below, along with attendant recommendations for future action. Some of these recommendations are appropriate

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18, 1993. It is not clear why the New York DEC is not a cooperating agency on the EIS, but from a federal perspective, at least, it would be appear sensible for the state to join in this effort.

<sup>2</sup>. Letter from William J. Degraff, Manager, Safety and Standards Branch to Mr. Gary Parsons, Chief, Bureau of Wildlife, New York State Department of Environmental Conservation, May 14, 1993.

<sup>3</sup>. Letter from Carl Bausch to Dinah Bear, May 7, 1993.

in the context of immediate action; others are better viewed in light of the programmatic EIS activities underway and the ultimate decision to be made following that process.

1. There is a problem created by close proximity of planes and birds at JFK and on the Jamaica Bay Unit of the Gateway National Recreation Area. That problem is immediately obvious to the casual observer and has serious, potentially fatal, consequences for both people and birds. However, discussion about solutions to the problem appears to have been obfuscated over time by disputes over level of risk and arguments over where to place blame.

The primary nesting area on the Jamaica Bay Unit for Laughing Gulls (and perhaps other birds species) is an area known as Jaco Marsh. Unfortunately, this area is immediately across from the two most heavily used runways for departures from JFK. It is clear that there is a significant degree of risk posed by the presence of the prime nesting area within approximately one thousand feet of these runways.

There is, it appears, a legitimate rationale for discussing levels of risk in regards to bird strikes by airplanes. At the June 2nd meeting at JFK, the representative from the Port Authority stated that his goal was zero risk - i.e., that "one bird strike was one too many". Clearly, as he acknowledged in that conversation, some level of bird strikes will inevitably occur. However, given the magnitude of the problem at JFK and the controversy which it has sparked, it would be helpful if JFK and/or the FAA defined, if possible, an acceptable level of risk. CEQ takes no position on what methodology would be best to determine such levels of risk; the guiding factor should be whatever methodology will produce information that is useful in resolving the problem by determining what level of risk currently exists as compared to the goal of the FAA and JFK. However, debate about what that level might be or should be should not detract from the very real and obvious problem currently existing at JFK and Jamaica Bay.

**RECOMMENDATION:** The FAA should, in cooperation with the JFK management and the New York and New Jersey Port Authority, articulate, if possible, what level of risk is considered safe for pilot and passenger safety in the context of the programmatic EIS. If that is not possible, the FAA should explain why it is not possible. If the ADC and the cooperating agencies working on the programmatic EIS believe that it would be helpful in reaching a decision about the reduction of risk, they should work on an analysis of the risk posed by the presence of the birds to the planes. However, this topic should not become the overwhelming focus of debate; rather, all parties should admit the obvious and move on to take steps to reduce the risk to pilots, passengers and the birds.

2. The problem created by the close proximity of birds and planes has been exacerbated by the reluctance of agencies to work together and accept shared responsibility for reducing the level of risk. That responsibility is not only apparent from a common sense point of view, it is a legal requirement.

When Congress established the Jamaica Bay Unit of the Gateway National Recreation Area, it clearly foresaw the need for shared responsibility and cooperation between the federal department with responsibilities for the two federal units adjacent to each other. Specifically, Congress stated that:

"The authority of the Secretary of Transportation to maintain and operate existing airway facilities and to install necessary new facilities within the recreation area shall be exercised in accordance with plans which are mutually acceptable to the Secretary of the Interior and the Secretary of Transportation and which are consistent with both the purpose of this subchapter and the purpose of existing statutes dealing with the establishment, maintenance, and operation of airway facilities: *Provided*, That nothing in this section shall authorize the expansion of airport runways into Jamaica Bay or air facilities at Floyd Bennett Field."<sup>4</sup>

This section of the authorization for the Jamaica Bay Unit has clearly never been implemented; in fact, representatives of several involved agencies admitted they were totally unaware of this law. Instead, the management of the Jamaica Bay Unit took the position that the problem is "not our problem" and that management of the refuge has not changed and should not change just because of the proximity to the airport. According to the National Park Service representative, no efforts have been taken by the refuge management since an aborted egg oiling experiment in 1991 to alter or modify the nesting area or nests to reduce the bird population.

This position helps neither birds nor people. The position seems to be based in part on a belief that the only responsibility of the refuge management is to fulfill the traditional responsibilities of a wildlife refuge. Yet this position ignores the fact that within minutes of leaving the refuge, a high percentage of the refuge's residents are being killed, and the baby birds are left without parents. It creates both the appearance and the reality of federal agencies working at cross-purposes, and it is inconsistent with the statutory requirement that the Secretaries of Transportation and the Interior work together to develop mutually acceptable plans.

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<sup>4</sup>. 16 U.S.C. §460cc-2(e).

RECOMMENDATION: Representatives of the Secretary of the Interior and the Secretary of Transportation should review this situation and mandate compliance with 16 U.S.C. §460cc-2(e). Such compliance should be part of the proposed action for the programmatic EIS which has been initiated by ADC.

3. The U.S. Fish and Wildlife Service has been issuing deprecation permits under the Migratory Bird Treaty Act and treating them as categorically excluded under NEPA because of the "small number of birds" involved in the action. This is not an appropriate use of the categorical exclusion.

Categorical exclusions are classes of actions which do not individually or cumulatively have a significant effect on the human environment.<sup>5</sup> The U.S. Fish and Wildlife Service (hereinafter "Service") has categorically excluded the issuance of the deprecation permits for the last three years under a categorical exclusion which reads:

"The issuance of permits for activities involving fish, wildlife or plants regulated under 50 CFR Chapter 1, Subchapter B, except when such permits involve the killing, the removal from natural habitat or the permanent impairment of reproductive capability of endangered species, threatened species, eagles or marine mammals."<sup>6</sup>

Categorical exclusions are not the equivalent of statutory exemptions; in fact, in compliance with the CEQ NEPA regulations, the Service has included in its NEPA procedures exceptions to categorical exclusions.<sup>7</sup> Several of those exceptions clearly apply to the annual shootings of over 10,000 gulls: for example, the shootings have controversial environmental effects and may have a cumulative impact on the gull population.

RECOMMENDATION: The Service should cease treating these permits under a categorical exclusion, and should implement appropriate NEPA compliance for the deprecation permit. It should also reexamine its responsibilities under the Migratory Bird Treaty Act and consider becoming a cooperating agency for preparation of the programmatic EIS.

4. The Port Authority has implemented some of the recommendations made in the various studies regarding the JFK bird situation over the years. Those steps should be acknowledged and their effectiveness evaluated. However, the

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<sup>5</sup>. 40 C.F.R. §1508.4.

<sup>6</sup>. 516 Dm 6, Appendix 1, C(1), 9/28/82 #2439.

<sup>7</sup>. 516 DM 2, Appendix 2, 9/26/84 #2596.

Port Authority has stopped short of implementing the recommendations completely and in a manner which would be most likely result in a reduction of risk. The Port Authority should take immediate steps to implement all of the recommendations.

Over the years, several studies have been funded by the Port Authority to determine what factors were attracting Laughing Gulls to JFK and to develop effective means to deter them from the airport grounds. In 1985, the Port Authority funded a study conducted by the National Park Service Cooperative Research Unit, Center for Coastal and Environmental Studies. In 1989, an International Panel of Experts on Bird Hazard Problems at JFK International Airport made recommendations regarding the problem. Finally, in 1991, the Department of Forestry and Wildlife Management of the University of Massachusetts at Amherst issued a report entitled "Birds and the Potential for Bird Strikes at John F. Kennedy International Airport."

The studies, all funded by the Port Authority, appear to have arrived at strikingly similar conclusions in regards to management of the grounds at JFK. The Port Authority has in some measures addressed many of the recommendations; however, it has held back on fully implementing many of the recommendations and instead has adopted a rather narrow and crabbed interpretation of them. For example, all of the studies recommend that JFK stop cutting the grass on all of the airport grounds and that the Port Authority initiate a program of 100% tall grass on all areas of JFK.

In response, the Port Authority has stopped cutting the grass in all operational areas. At first blush, this might seem to be a reasonable approach. Clearly, bird/plane interactions are more likely to occur nearest the proximity of Jaco marsh and the runways. However, there are two problems with the current situation:

1. First, and perhaps most importantly, it appears that all the Port Authority has done in the operational areas is to literally stop cutting the grass. What the Port Authority has not done is to implement a positive program of growing a species of grass which will thrive in the JFK environment and will produce uniformly high grass. In fact, the areas around the runway appear to have been essentially abandoned and the grass varies considerably from area to area in terms of the height and density.

This is an example of taking the recommendation literally (i.e., stop cutting the grass), but not implementing it in a manner which will actually achieve the desired result.

2. Second, the Port Authority continues to mow the grass in the visitor areas around the terminal and in the entry

way to the airport. The Port Authority's rationale is that these areas are relatively less important in terms of attracting birds. That observation may seem empirically true. However, given the magnitude of the problem which leads the Port Authority to the drastic measures once again being implemented this summer, it does not seem to be too much to suggest that a recommendation consistently made by bird experts be fully implemented. Further, there would appear to be reasonable ways of landscaping those areas in a manner equally suited to the aesthetic requirements of the airport and consistent with the recommendations of the bird experts.

Another recommendation of the reports is that the Port Authority take active means to discourage feeding of the gulls at taxi stands and other locations around the airport. The JFK representative stated that a memo had been sent out to all employees to this effect. However, the memo which was sent to CEQ was dated June 10, 1993 - several days after the meeting with CEQ. The memo does reference "reinforcement" of the existing policy; however, it is not clear how vigorously this policy has been communicated or implemented.

The Port Authority does appear to have made significant progress in eliminating puddles on JFK, although some still exist. The Port Authority representatives indicated that they were in the process of taking further steps to reduce the attractiveness of puddles formed immediately after rainstorms, through addition of a chemical additive.

The Port Authority also appears to have made considerable progress in closing dumpsters and nearby landfills, thus reducing the availability of organic garbage which would attract birds.

RECOMMENDATIONS: The Port Authority should immediately develop a program of planting and maintaining tall grasses and/or wildflowers in all airport areas. They should work with local botanists to identify which species will work best in these areas to achieve the characteristics called for in the studies regarding JFK grounds.

The Port Authority should vigorously enforce its "no feeding" policy, and continue in its efforts to eliminate areas of attractive habitat near the airport grounds.

5. The Animal Damage Control Program has committed to alternative procedures for implementing the procedural provisions of NEPA which are appropriate under these circumstances. However, all parties involved must use that process to achieve the purposes of NEPA itself - that is, "to create and maintain conditions under which man and nature can exist in productive harmony. . . .". Without that commitment, the process will be a

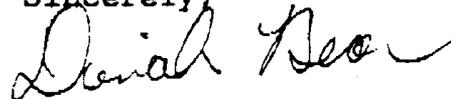
hollow shell which will simply justify continuation of the status quo. APHIS should not entertain further requests for "emergency" action of this nature unless and until the parties involved truly commit to finding a long-term solution to this problem.

Under the immediate circumstances, the ADC has performed or has committed to carrying out appropriate procedural steps - that is, the environmental assessment prepared for the immediate shooting of the Laughing Gulls, and the commitment to prepare a programmatic EIS. It appears, however, that unless several of the agencies most intimately involved in this problem make a commitment to acknowledge shared responsibility for resolving this problem, the outcome of the programmatic EIS is likely to be a program of "more of the same". ADC has performed a service by initiating the preparation of an EIS, but it does not and cannot take the responsibility for managing either the Jamaica Bay Unit or the airport grounds. The National Park Service must begin to acknowledge its responsibilities for resolving the problem; the Port Authority must implement the recommendations for habitat change on its grounds with renewed vigor. The U.S. Fish and Wildlife Service needs to thoughtfully review its role in this matter, and the FAA should provide the maximum amount of information designed to clarify the magnitude of the problem.

RECOMMENDATION: The U.S. Fish and Wildlife Service and the Port Authority of New York and New Jersey should become cooperating agencies for the programmatic EIS. The purpose and need for the EIS should be modified to include implementation of the law requiring the Departments of the Interior and Transportation to develop a mutually acceptable plan for operation of the airport in conjunction with the mission of the Jamaica Bay Unit. A high priority should be set on setting aside turf battles and working towards a solution which will lessen the probabilities of both human and avian fatalities.

I hope these observations and recommendations are helpful. Please do not hesitate to contact me if we can be of further assistance.

Sincerely,



Dinah Bear  
General Counsel

cc: Joe Canny  
Deputy Assistant Secretary  
Department of Transportation

William DeGraaf  
Manager, Safety & Standards Branch  
Federal Aviation Administration

Don Barry  
Counselor to the Assistant Secretary for  
Fish, Wildlife and Parks  
Department of the Interior

Don Peterson, Environmental Coordinator  
Division of Endangered Species and Habitat Conservation  
U.S. Fish and Wildlife Service

Arthur Stewart  
Deputy Superintendent  
Gateway National Recreation Area

Janet Sillings  
State Director/Wildlife Biologist  
Animal Damage Control Program

Jack Gartner  
Manager, Aeronautical Services Division  
John F. Kennedy International Airport  
Port Authority of New Jersey and New York

Harry Barr, Chief  
Environmental Law Division, Law Department  
Port Authority of New Jersey and New York

Joseph Pane  
New York State Department of Environmental Conservation



U.S. Department  
of Transportation

**Federal Aviation  
Administration**

Eastern Region

Fitzgerald Federal Building  
John F. Kennedy  
International Airport  
Jamaica, New York 11430

SEP 21 1993

Ms. Janet Sillings  
State Director  
United States Dept. of Agriculture  
Animal & Plant Health Inspection Service  
Animal Damage Control  
RD #2, Box 360-C  
Locust Grove Road  
Pittstown, NJ 08867-9529

SEP 27 1993

Dear Ms. Sillings,

This is in reply to your letter dated July 13, 1993, concerning the question of "what level of risk is considered safe for pilot and passenger safety" as identified in the scoping process of the Environmental Impact Statement for JFK's Gull Hazard Reduction Program.

We are of the opinion that "risk" of injury, loss of human life or damage to a aircraft as a result of a bird strike can not be measured in absolute terms. Our current technology does not afford us the ability to analyze the complex issue of assessing probabilities of bird/aircraft collisions.

Your letter stated that an important area to explore is the current level of risk. It is our opinion that the current level is unacceptable.

Also mentioned in your letter as an important area was the establishment of a level of risk as a goal against which alternatives would be measured. A level of risk as a goal is very difficult to define, since by doing so we would be saying that any occurrence below that stated level is safe. Example: One might say that 2 bird strikes a year at JFK is acceptable. Does that mean that a single bird strike which brings down a fully loaded 747 aircraft with multiple fatalities is safe? As you can see this is a very difficult if not impossible issue.

As stated in Ms. Bear's letter; "this topic should not become the overwhelming focus of debate; rather, all parties should admit the obvious and move on to reduce the risk to pilots, passengers and the birds."

We have conferred with the Port Authority regarding your letter and they agree with the contents of this letter.

Sincerely,

A handwritten signature in cursive script, appearing to read "William J. DeGraaff". The signature is written in black ink and is positioned above the typed name.

William J. DeGraaff  
Manager, Safety & Standards Branch

APR 25 1994

Ms. Janet Bucknall  
State Director  
USDA, APHIS, Animal Damage Control  
140-C Locust Grove Road  
Pittstown, NJ 08867-9529

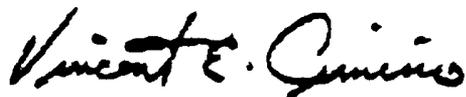
Dear Ms. Bucknall,

This is in reply to your request that we respond to comments made by the Fund for Animals Inc. in a letter dated March 28, 1994, which concerned the Draft Environmental Impact Statement for the JFK Gull Hazard Reduction Program.

We want to reaffirm our opinion contained in a letter to you dated September 21, 1993, concerning aircraft/bird strike hazard level of risk. Our opinion is that the determination of a defensible numerical value of risk or probability for a bird strike, given a set of parameters such as the airport and runway used, the type and weight of an aircraft, the visibility, wind speed and direction, the time of day, the month of the year, the location, density and types of bird colonies, etc. is virtually impossible. There are too many variables to assess a single event risk.

We also wish to state that our overall position on the Gull Hazard Reduction Program is contained in our letter to Mr. Gary Parsons dated April 27, 1993.

Sincerely,



Vincent E. Cimino  
Airport Certification/Safety Inspector  
and Safety Program Officer

AEA-620:CIMINO:cp:x1251:4/25/94  
cc: AEA-200, AEA-500, AEA-1, AEA-7

SEP 21 1993

Ms. Janet Sillings  
State Director  
United States Dept. of Agriculture  
Animal & Plant Health Inspection Service  
Animal Damage Control  
RD #2, Box 360-C  
Locust Grove Road  
Pittstown, NJ 08867-9529

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As stated in Ms. Bear's letter; "this topic should not become the overwhelming focus of debate; rather, all parties should admit the obvious and move on to reduce the risk to pilots, passengers and the birds."

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Sincerely,

Original signed by:  
William J. DeGraaff

William J. DeGraaff  
Manager, Safety & Standards Branch

AEA-620:DEGRAAFP;cp:x1250:9/20/94:I:sill13.doc  
cc:NY-ADO, AEA-7, PA (Gartner, Walden)

Mr. Gary Parsons  
Chief, Bureau of Wildlife  
NY State Dept. of Environmental  
Conservation  
50 Wolf Road  
Albany, NY 12233-4754

Apr 27 1993

Dear Mr. Parsons,

Please accept this letter as an indication of the concerns the Federal Aviation Administration (FAA) has with the safety implications posed by the severe bird/aircraft strike hazard condition which currently exists at JFK International Airport (JFK).

Federal Aviation Regulation 14 CFR Part 139, "Certification and Operations: Land Airports Serving Certain Air Carriers", as per Section 139.337 "Wildlife Hazard Management" requires certificated airports such as JFK to develop and implement a Wildlife Hazard Management Plan. Section 139.337 (d)2 states that the plan shall provide measures to alleviate or eliminate wildlife hazards to air carrier operations.

Laughing gulls are presently nesting within 1,000 feet of the Runway 4L threshold and the colony has grown to more than 8,000 nesting pair. The FAA considers this to be a significant hazard to aircraft operating at JFK. All past and present studies indicate that a serious safety hazard exists for all aircraft operating at JFK due to the close proximity of the laughing gull colony to Runway 4L-22R and 13L-31R at JFK.

Repeated efforts have been made by the PANY & NJ, with support from the U.S. Dept. of Agriculture-Animal Damage Control and the FAA to institute effective bird mitigation measures at JFK. In spite of these numerous efforts to date, the only method proven to be effective is depredation.

This method has significantly improved safety as evidenced by the enclosed documentation. This documentation shows the drop in the number of birdstrikes by laughing gulls and all other gulls in the vicinity of the airport.

Before this depredation program was undertaken, the number of aircraft/bird strikes by laughing gulls was steadily increasing, in spite of an intensive bird management program.

Analysis of this documentation reveals the following:

	1991	1992
Birdstrike Reduction of Laughing Gulls	67%	89%
Birdstrike Reduction of All Other Gulls	70%	90%

In light of the statistics which demonstrate the effectiveness of these efforts and our continual commitment of enhancing safety, we consider the implementation of an effective bird mitigation program to be of the utmost importance.

Sincerely,

William J. DeGraaff  
Manager, Safety & Standards Branch

Enclosure

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MAY 5 1991

Ms. Janet Sillings  
USDA/APHIS  
RD# 2, BOX 360-C  
Locust Grove Road  
Pittstown, NJ 08867-9529

Dear Ms. Sillings,

This letter is written to express our immediate concerns with the serious increased hazard to the flying public related to the cessation of effective bird mitigation measures at JFK.

In 1991 and again in 1992, the Port Authority of NY & NJ instituted very effective measures that significantly reduced the hazard to the flying public of bird/aircraft strikes.

Bird strikes pose a serious hazard to aircraft, especially turbojet aircraft. As a result of a strike, a bird may be sucked into a turbojet engine causing it to shut down. The resulting loss of power could cause a crash, especially if the loss of power occurs while the aircraft is taking off or landing, as it would be in the JFK area. Most of the aircraft in the vicinity of JFK are commercial turbojet airliners. A crash of such an aircraft could cause serious injury or death to the hundreds of passengers these aircraft typically carry.

Not allowing these mitigation measures will permit a dramatic increase in the number of bird/aircraft strikes and greatly increase the risk to the flying public.

Sincerely,

*orig. signed by :*

William De Graaff  
Manager, Safety and Standards Branch

I:SILLINGS.DOC  
cc: NYS-DEC, PA-JFK Gartner, NY-ADO, JFK-ATCT, AAS-317  
AEA-7

*cc: V. Cumino*

## BIRD HAZARDS TO AIRCRAFT AT JFK INTERNATIONAL AIRPORT

Following extensive consultations with representatives of JFK Airport and the National Park Service and personal observations from the air and on the ground, the panel decided that the hazard to aircraft at JFK Airport posed by the laughing gull colony could not be considered in isolation from the hazard posed by other birds.

All panel members were impressed by the extreme nature of the bird-strike hazard caused by having a major international airport adjacent to a large wildlife refuge. The situation is made worse by the fact that the recommendations made following the DC10 ONA incident in 1975 for the closure of neighboring landfills have not been completed.

Thanks to the dedicated work of Marcel Chevalier, extensive data exist on the number and nature of bird related incidents over a series of years. These indicate the potentially serious hazard posed by birds to aircraft operations at JFK. However the data are not detailed enough to allow a full assessment of the hazard posed by laughing gulls. Although the annual and seasonal trends in laughing gull numbers correlate with the numbers of laughing gull corpses found on the airport and the fact that these birds represent fifty percent of those corpses, these data give a deceptive impression of the significance of the laughing gull hazard. Laughing gull strikes appear to involve only single birds in most cases while strikes involving larger gulls more often tend to involve groups of birds. Reports indicate that laughing gulls have not been responsible for any damage to aircraft during at least the last eighteen months.

There is a clear need for:

1. More comprehensive collection of, and analysis of data on bird strikes at JFK.
2. The collection of standardised data on the spacial and temporal distribution of birds on the airfield, in addition to that observed during routine bird patrols.
3. The collection of data on movements of birds over the airport, since a number of serious incidents have involved overflying birds such as geese and cormorants.

Clearly the officials at JFK are aware of the value of habitat management and in recent years, based on recommendations of the NPS/USDA, have brought in a number of measures to make the airfield less attractive to birds. However, in view of the size and location of the airport, the magnitude of the hazard and the planned exposure of more aircraft (JFK2000) to that hazard, a reappraisal of the financial commitment to habitat management must be made by senior management involving such items as:

1. Further structural measures to improve drainage on the entire airport.
2. The further establishment and maintenance of suitable vegetative cover to discourage bird use throughout the airport.
3. Action to ensure that edible waste is never accessible to birds on the airport.
4. These actions should be monitored to identify any possible side effects.

A number of improvements need to be made to bird detection and dispersal operations, to take account of the size of the airport and the complexity of the problem. In particular:

1. Increased staffing within the Bird Control Unit.
2. The provision of fully equipped vehicles for all bird control staff.
3. Correct use of and regular replacement of distress tapes for all types of problem species.
4. Increased availability of pyrotechnic equipment.
5. Proper deployment and use of automatic bird scaring equipment (gas cannons).

It is self evident that the laughing gull colony in its present location presents an unacceptable hazard to aircraft operations at JFK. The data available to us indicate clearly that most of the laughing gull strikes involve adult birds traversing the airfield whilst collecting food for their young. The data do not exclude the possible involvement of non-breeding laughing gulls in bird strikes. The laughing gull problem cannot be resolved by action on the airport alone. Any control in the colony must:

- not increase the hazard for air traffic.
- not unduly affect non target species.

It is the opinion of the panel, based upon experience with gulls and other species, that an effective control programme (to be adopted during 1990) should include the oiling of all eggs in the laughing gull colony. This will ensure that the birds are tied to their nest and will not produce any offspring and thereby remove the need for repeated feeding flights across the airfield. We expect that this will reduce the sudden peak in bird strikes in June. The oiling of eggs would be the least hazardous approach to both aircraft and non target wildlife. If continued in successive years, oiling would be likely to result in the abandonment of the colony. Other control methods could be introduced in future years to speed up this process.

There must be total cooperation and coordination of activities between the staffs at JFK and NPS in order to manage the bird hazard at this airport. There must be a recognition by JFK officials that they face a continuing bird strike problem. The importance of the National Park facility and actions are of great public interest and concern. There must also be recognition by the NPS of the contribution to the bird-strike problem resulting from the proximity of JBWR to the airport. The growth in public use of both facilities must be recognised. Since a major part of the bird hazard at JFK is caused by overflying birds there is a great need for the JFK officials to expand the cooperation with off-airport agencies.

Bird hazard management is a biological problem which requires the services of one or more ornithologically qualified personnel who have direct access to senior management in the Port Authority.

Finally the panel wishes to restate the importance of the work which has so far been carried out by Marcel Chevalier. In order to increase the effectiveness of the Bird Control Unit, it is vital that Mr Chevalier be given the opportunity to visit other airports with established bird control programmes.

Drs L.S. Buurma,  
RNLAf / Board of BSCE,  
P.O. box 20703,  
2500 ES The Hague  
The Netherlands

Dr J.E. Karlsson,  
Lund University,  
Ecology Building,  
S-22362 Lund,  
Sweden

Dr V.E.F. Solman,  
Bird Strike Consultant,  
614 Denbury Ave,  
Ottawa, Ontario,  
Canada, K2A 2P1.

Dr C.S. Thomas,  
Environmental Control Manager,  
Manchester Airport,  
Manchester,  
England, M22 5PA.

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