

Pennsylvania Airport Manager's Safety Handbook



FORWARD

This handbook is intended for the Airport Manager and those wanting a basic understanding of the complex issues of managing a public airport in Pennsylvania.

As the central controlling authority at the airport, the manager is chiefly responsible for the day-to-day operational oversight of the facility and implementation of the airport's safety program.

To succeed in their role of providing a safe operating environment managers and staff must have a clear understanding of their responsibilities and the expectations of the aviation community.

This handbook is designed to provide a quick reference guide of the standards and procedures associated with a sound airport safety program.

Information provided herein is not all-inclusive of the role of the Airport Manager, but will serve as a primer of the many facets of aviation safety. The Department will not be liable for any actions or inactions taken as a result of this handbook.

This Airport Managers Handbook is published by the **Pennsylvania Department of Transportation, Bureau of Aviation**. Copies may be downloaded at www.penndot.gov.

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SECTION 1: GENERAL INFORMATION

1.1 Introduction

This safety handbook is published by the Pennsylvania Bureau of Aviation as a tool for airport owners, managers and operators to understand State airport licensing requirements and the roles, responsibilities and expectations associated with managing a publically operated airport.

While not all-inclusive, the handbook consolidates and supplements the many State and Federal safety references that pertain to safe operation of an airport. Airport management and staff can use this document as a guide to developing an individualized safety program to detect, track, and mitigate safety hazards distinctive to their airport.

Portions of this booklet are formatted to assist Airport Managers and operators to conduct walk around self-inspections of the airport's facilities, equipment and operational procedures.

All references listed in this handbook refer to the latest edition of the document.

1.2 Safety Program Objectives

The primary objective of an airport safety program is to establish a safety climate that includes routine actions to prevent accidents and be prepared to respond to an accident or incident should one occur.

An airport's safety program objectives should include:

- Establishing individual responsibilities and safety procedures for airport personnel.
- Conducting routine inspections of airport facilities, equipment and infrastructure using checklists.
- Mitigating operational hazards (materially or through procedural controls).
- Communicating known hazards to appropriate personnel.
- Programming a long term strategy to enhance airfield safety.
- Establishing and training an Airport Emergency Plan (AEP).
- Facilitating safety training on a routine basis for airport personnel, local pilots, and identified emergency responders.

GENERAL INFORMATION

1.3 Core Safety Values

- All accidents are preventable.
- Working safely is a condition of employment.
- Training personnel on safety standards and expectations.
- Recognize unsafe behavior and implement best practices.
- Always be alert and ready.

1.4 Legal Implications

Airport Managers should be aware of the lawful expectations of managing a public airport. There are two types of risk: risk of an accident; and the risk of legal liability should an accident occur.

Federal and State regulations and guidelines define the safety standards for operating a public airport. If these standards cannot be achieved, or maintained, then the airport should coordinate with the Bureau of Aviation to assess the risk and implement precautions as appropriate to minimize the risk of an accident.

If an accident does occur, for whatever reason, the airport may be at risk of litigation, and as such, airports should be protected against liability.

Airports have been held liable for various lapses in safety, including but not limited to; not maintaining lighting systems, inadequately removing snow or ice (from runways or sidewalks), or failing to publish an appropriate Notice to Airmen (NOTAM) for known airport hazards.

The key to minimizing all risk is by taking the appropriate measures 'reasonably expected' to protect the general public and provide a safe flight environment.

SECTION 2: ROLES AND RESPONSIBILITIES

2.1 Introduction

Public airports interact with a vast network of people and organizations that play a vital role in airport safety. Airport Managers should be familiar with these roles and responsibilities to effectively coordinate airport activities.

2.2 Airport Manager

The Airport Manager is the 'Executive Director' that runs the airport. The airport manager or his/her designee is responsible for the day-to-day administration and operation of the airport.

Safety is the number one priority. It is the Airport Manager's primary responsibility to implement a safety program that *actively* minimizes risk of injury to personnel or damage to airport facilities, equipment and infrastructure.

Airport Manager responsibilities include:

- Maintain oversight of all activities occurring on the airport, to include commercial operations and tenant activities. Airport situational awareness is essential to understanding where hazards may exist and in coordinating actions to mitigate those risks.
- Develop and implement the airport's accident prevention program (see Section 3).
- Prepare, train, and exercise emergency preparedness activities (Section 4).
- Review and coordinate the safety plans of all tenant organizations to assure consistency with the overall airport safety program.
- Oversee or perform routine airport safety inspections. Checklists are an excellent tool to assure all areas are inspected on the appropriate schedule. All inspections should be documented and kept on file should a safety review be necessary (Section 5).
- Communicate non-standard or hazardous conditions by using the FAA's Notice to Airmen (NOTAM) program (Section 8).
- Track airport hazards and deficiencies, and coordinate corrective action and/or hazard mitigation measures.

ROLES AND RESPONSIBILITIES

- Assure all advertised airport equipment and services are maintained in a safe and serviceable condition (runways/lighting/fuel/parking/etc.)

Additional responsibilities include:

- Safety training – Facilitating training programs for employees and local pilots. (Section 3).
- Media relations – Responding to media requests to airport related matters (i.e. accidents/incidents or airport improvement projects.) (Section 9)
- Business relations – Promoting the airport to attract customers and new tenants, advertise airport services, and build positive community relationships.
- Airport fiscal management – Including hangar rent, utilities, taxes, and grant program management and consultant fees.
- Representing the airport with Local, State, or Federal authorities. Managers may be required to advance airport needs and requirements, such as zoning issues, airport license compliance, airspace management, and/or airport development grants.

2.3 Airport Sponsor

The airport sponsor is the airport owner and/or legal controlling authority of the airport (i.e., County, Township, or Airport Authority). The sponsor has **overall responsibility for the planning, development, maintenance, and safe operation of the airport.**

The sponsor must ensure that airport personnel are properly trained and qualified in their responsibilities and aware of the occupational hazards existing at the airport.

The sponsor is ultimately responsible for ensuring that the airport is in compliance with applicable federal, state, and local safety regulations, requirements, and procedures.

Locally, it is the sponsor's responsibility (and/or Manager's) to work closely with the local municipalities to develop and enforce airport hazard zoning and promote compatible land use planning around the airport.

ROLES AND RESPONSIBILITIES

2.4 Airport Tenants

Airport tenants should comply with specified airport rules and regulations. Complex activities that may disrupt normal airport operations should be coordinated with the Airport Manager.

All businesses, Fixed Based Operators (FBOs), flight schools, charter operations, and maintenance activities should have independent safety programs. Tenant safety programs and emergency response activities should be coordinated with and integrated into the overall airport safety program.

2.5 Based Pilots

Pilots based at the airport are expected to comply with specified airport procedures and regulations. Pilots should be familiar with airport expectations with regard to flight operations, fueling operations, emergency response procedures and airport security.

2.6 Local Municipalities

PA Act 164 of 1984 (Laws Relating to Aviation), requires municipalities around public airports to adopt and enforce hazard zoning regulations to restrict the height to which structures may be erected or objects of natural growth be allowed to grow in order to protect the airports navigable airspace.

Municipalities must recognize the existence of public air corridors into and out of the airport and act to protect these corridors. Preserving this navigable airspace also protects the public health, safety, and welfare of their community.

Prior to approving any construction project nearby public airports, municipalities should seek FAA and PA Bureau of Aviation feedback on the impact of the proposed development upon flight operations. Federal Aviation Regulation Part 77 (Navigable Airspace), and Chapter 479 of Title 67 of the Pennsylvania Code defines when these formal notifications are required.

Airport management should work closely with municipal authorities to articulate aviation safety concerns and coordinate airport and community development plans.

ROLES AND RESPONSIBILITIES

2.7 Airport Consultants

The consultant's role is to provide professional advisory support in airport planning, project development and execution, and general administrative services to assist airport sponsors in managing and implementing their airport development plan.

Airport consultants assist sponsors with completion of planning and environmental studies, prioritizing development and funding needs and meeting grant program requirements, as well as designing and constructing projects.

The consultant must ensure that while performing these services, the project goals, objectives, budgets, and timelines are effectively managed and communicated to the airport sponsor, FAA, and the Bureau of Aviation.

The consultant must accurately represent the airport sponsor's policies and decisions, act as directed by the airport sponsor and when directed serve as an intermediary between the airport sponsor, FAA, and the Bureau of Aviation.

2.8 Bureau of Aviation (BOA)

The primary mission of the Bureau of Aviation is to provide, promote, and preserve a safe and reliable air transportation system in the Commonwealth of Pennsylvania. As such, the Bureau is one of the key advocates in advancing airport objectives.

BOA's support to airport management comes in several broad respects; aviation safety assistance, State airport development grants, and aviation promotion and outreach.

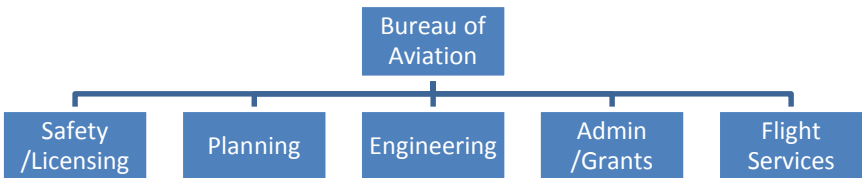
Airport safety inspections are conducted annually by the Bureau at all Public airports to assure standards compliance and assist with hazard identification and mitigation options.

The Bureau is also under contract with the FAA to update the FAA's database with current airport conditions. The information provided to the FAA provides the core data published in the FAA's Airport/Facility Directory (AFD).

ROLES AND RESPONSIBILITIES

Bureau personnel work closely with local municipalities to help community leaders understand their roles and responsibilities in protecting navigable airspace and assuring public safety.

Airport planners, project managers and grant administrators plan, program, and finance airport development projects (using both Federal and State funds). Airports may have access to several different financial grant programs depending upon need and level of service provided (Section 12). Additional information about aviation grant programs (or any Bureau program) can be found at the Bureau's website: www.penndot.gov.



2.9 Federal Aviation Administration (FAA)

The FAA is the key central figure in the oversight of aviation safety. FAA regulations, Orders, advisory circulars, and other guidance provide the standards and guidelines for the operation and maintenance of airports, the conduct of air-navigation, and overall flight safety.

The FAA is divided into many different "lines of business" (LOB), each having a specific role within the FAA. The key LOBs involved in airport operations and safety are:

- Airports (ARP) — Oversees all programs related to airport safety and standards for airport design, construction and operation.
- Air Traffic Organization (ATO) — Manages air traffic operations and facilities to move aircraft within the National Airspace System (control towers and enroute facilities).
- Aviation Safety (AVS) — Responsible for certification of personnel and aircraft, including pilots, airlines and mechanics. Includes the Flight Standards District Office (FSDO).

ROLES AND RESPONSIBILITIES

- Flight Technologies & Procedures Division (AFS) — Develops instrument flight procedures and obstacle clearance standards for Terminal Instrument Procedures (TERPS).

The FAA provides financial assistance to eligible airport sponsors through the Airport Improvement Program (AIP).

Federal grant programs are restricted to airports already accepted into the National Plan of Integrated Airport Systems (NPIAS).

The PA Bureau of Aviation manages a portion of these grants as a participant in the FAA's State Block Grant program (see Section 12).



SECTION 3: ACCIDENT PREVENTION PROGRAM

3.1 Introduction

The aviation industry is the safest mode of transportation largely because of strict adherence to prescribed standards of safety. That same measure of diligence is applied in the management of airport operations.

Airport management is expected to provide a safe and healthful work environment for their employees, as well as provide a safe flight environment for pilots.

3.2 Airport Accident Prevention Program

An effective accident prevention program begins with a well-documented, well trained set of procedures that are integrated into everyday tasks to find, fix, and control hazards.

The airport sponsor provides the resources and guidance for the development and implementation of the accident prevention program.

The safety attitude of airport staff, tenants, and local pilots will usually follow that of the airport sponsor. A stronger emphasis of safety will result in stronger adherence to accident prevention.

The Airport Manager is responsible, and held accountable, for the implementation of the accident prevention program. He/she must ensure that all employees under their supervision follow the safety and health policies, procedures, and rules and regulations established at the airport.

The Airport Manager should have the authority to approve or carry out disciplinary actions against those that violate policies, procedures, or rules and regulations.

Pilots, tenants, and employees should all be encouraged to communicate their safety and health concerns to airport management for hazard visibility and to implement mitigation measures.

Tenant organizations should implement their own safety program that supplements the overall airport safety program since they are responsible for ensuring that their employees' actions are compliant with the airport's safety program.

ACCIDENT PREVENTION PROGRAM

3.3 Risk Management Process

Risk Management (RM) is the ongoing activity of finding and mitigating hazards. It should be second nature to the Airport Manager and integrated into daily management activities. The RM process is a five step continuous activity:

- a. Identifying potential problems/hazards
- b. Analyzing the risk (probability of accident and severity)
- c. Determining possible control measures to reduce the risk (material fix or procedural controls)
- d. Implementing the selected control measures (permanent or interim fixes)
- e. Monitoring how effectively those control measures mitigate the hazard.

A key to minimizing risk is the communication of hazards to applicable personnel (i.e., NOTAMs). Pilots must be made aware of flight hazards existing at or near the airport.

Further information can be found in FAA Advisory Circular (AC) 120-92, Safety Management Systems for Aviation Service Providers.

3.4 Airport Safety Training

All personnel should have a clear understanding of their role in preventing accidents and responding to an accident should one occur. As such, the airport sponsor should facilitate safety training to communicate the airport's safety expectations, review aviation hazards, and discuss roles and responsibilities while operating at the airport.

The Airport Manager should coordinate the conduct of the airport's safety training program. Subtasks of the program may be delegated to others, but the ultimate responsibility of the effectiveness of the program rests with the manager.

All personnel operating at the airport should receive periodic safety training. Recurring training should include:

- Training for airport employees (i.e. accident response)
- Training for local pilots (i.e. winter flying/refueling ops).

ACCIDENT PREVENTION PROGRAM

- Training with local emergency services to exercise emergency response procedures, coordinate fire safety and response, and offer CPR/First Aid training.

All safety training should be formally documented with the type of training, who provided the instruction, and who attended.

3.5 Accident Reporting

In general, all aircraft accidents and some incidents should be reported immediately to the National Transportation Safety Board (NTSB) by the aircraft operator. In many cases, the pilot will be directed to complete NTSB Form 6120.1 (Aircraft Accident Report), which can be found on the NTSB web site (www.nts.gov). Please note that while the form can be completed online, it must be printed out and submitted to the NTSB via mail or fax.

An accident is defined as an occurrence associated with the operation of an aircraft that takes place between the time any person boards the aircraft with the intention of flight, and all such persons have disembarked, in which any person suffers death or serious injury, or in which the aircraft receives substantial damage (Appendix C). An incident is an occurrence other than an accident that affects or could affect the safety of operations.

Airport operators should stress the accident reporting requirement and assist with accident documentation and accident scene preservation as necessary.



SECTION 4: EMERGENCY PREPAREDNESS

4.1 Introduction

One of the most important tasks of an Airport Manager is to assure that airport personnel are prepared to respond to an airport emergency.

An airport emergency may involve any unexpected event that could cause injury to personnel or damage to airport facilities, equipment or infrastructure.

Since airport personnel may be the first responders to an accident; employees, tenants, and even local pilots should all understand airport expectations on how to respond.

The Bureau recommends all public airports develop an Airport Emergency [Response] Plan (AEP) to clarify response expectations and coordinate the actions of airport personnel and local emergency service responders.

This section provides an overview of an AEP and emergency planning considerations. A sample aircraft accident response checklist can be found on the back cover of this handbook.

4.2 Airport Emergency Plan (AEP)

The primary purpose of an AEP is to establish specific duties and responsibilities and coordinate all response efforts during emergency operations.

The format of an AEP will vary depending upon scope of activity at the airport, but the plan should cover the full range of possible emergencies and be coordinated closely with airport tenants and local emergency management professionals.

A detailed guide for developing an AEP can be found in FAA Advisory Circular 150/5200-31 (Airport Emergency Plan).

The AEP should be reviewed annually, as changes in personnel, equipment, and facilities can impact response procedures.

4.3 Emergency Preparedness Considerations

Development of an AEP involves a full review of the unique conditions existing at the airport. The following considerations should be assessed to determine response capabilities, limitations, needs, and available resources:

EMERGENCY PREPAREDNESS

- **Personnel.** How many people are available to respond to emergencies at the airport (airport personnel, emergency services)? Are they trained in emergency response? What hours and days are those people available? Who can close the airfield or issue NOTAMS? Is there an updated 24-hour contact list readily available?

What should happen if the Airport Manager is not available? Who can be designated the point of contact during an emergency in his or her absence?

- **Equipment.** What emergency equipment is available on-site and where is it stored? What equipment is located off-site to provide an emergency response in a reasonable time?

How often is the equipment checked and serviced? Do airport staff members and emergency responders know where the equipment is stored? Is the equipment accessible (or under lock and key)?

Do emergency response personnel have adequate communication radios for on-airport and multiple agency coordination?

- **Facilities.** Develop a practical description and drawing of your airport in your emergency plan. This should include runway sizes, taxiways, and ramps. All buildings, access roadways, and fence lines should be described and depicted.

Identify critical sources of power, emergency generators, and water (hydrants).

Use identifiers or boundary features to highlight critical assets, hazards, and access points to make them more recognizable to non-airport personnel.

- **Accessibility/Terrain.** Consider how easy is it to reach the areas off the end of the runways and the remote areas of the airport. Are access roads available and are they in good shape (consider winter snow, spring rains, etc.)? Is there rocky terrain or water near the airfield that would make rescue efforts difficult?

- **Response Times.** What is the expected response times and distances for responding agencies to reach the airport?

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What access routes do they have onto the airport? If the airport has a perimeter fence, can they gain access through the gates? Should someone man the gate and direct responders?

Are gates cleared of snow in winter? Do they have access to buildings after hours, including the utility rooms?

What features border the airport that would affect airport accessibility, such as rivers, wetlands, private land, and roadways?

- **Communications.** Effective emergency response requires clear and open communication for both air and ground coordination requirements.

Anticipate that responding agencies may use different radio frequencies and may not be able to communicate with one another. As such, an incident command vehicle or central location may be needed to coordinate the multiple entities and communication requirements.

If cell phone coverage is unreliable, consider using local amateur radio operators for certain situations.

4.4 Emergency Response Kit

It may be beneficial to develop an emergency kit to expedite emergency response. The AEP may identify the contents and locations of these kits. Examples of items to incorporate into these kits are additional aviation radios, flashlights, call lists for airport staff, medical supplies, runway closure markings, high visibility vests, credentialing documents, triage tags, aircraft parking wands, gloves, tools, and other supplies.

Each airport is unique and may have specialized operational needs to consider when preparing emergency kits.

4.5 Agency Coordination

All airports need outside agencies to respond to airport emergencies, whether local fire and rescue or national investigation teams for a major accident. In developing the AEP, recognize which agencies will respond at different response levels.

EMERGENCY PREPAREDNESS

Invite any agency that could potentially respond to an airport incident to participate in planning, reviews, and exercises—for example, local fire and police departments, hospitals, county emergency officers, sheriff, tenants, and city or county administrators.

Establish a contact list that is readily available and update it on an annual basis. The importance of airport familiarization cannot be overemphasized for responding agencies. Knowing airport operational procedures, proper communications, and access or departure points is critical for maintaining a safe response.

The first emergency response agency on-scene should work with the Airport Manager or point of contact and establish an incident command point and assume control of the incident. As senior response personnel arrive, command may be transferred as appropriate.

If the incident involves major aircraft damage, fatalities, or criminal activity, national response teams will be involved. Generally, you may expect the FAA and NTSB to investigate aircraft accidents and associated fatalities. The Federal Bureau of Investigation (FBI) and Transportation Security Administration (TSA) may also be involved in investigating criminal activities or terroristic threats.

4.6 Media Role

Involving the media in your AEP and training events provides a great public relations opportunity to demonstrate the hard work and preparation the airport, and responding agencies, have engaged in during the AEP process.

More importantly, involving the media in your AEP informs them how, when and where to respond during an emergency. Establish ahead of time an area for media briefings and be prepared to provide timely and informative briefings during an event. This step creates good public relations and demonstrates the professionalism of the airport and responders.

Establish one person to communicate with the media during any emergency. This ensures a consistent message that is factual and concise. Before interacting with the media during an emergency, spend a few moments preparing a brief factual statement. Select a site out of view of the incident.

SECTION 5: SAFETY INSPECTIONS

5.1 Introduction

Even the smallest airport should have an active self-inspection program. Maintaining operational safety at an airport is largely dependent upon a proactive inspection program that finds and corrects deficiencies and mitigates operational hazards.

Airport Managers should develop an inspection program unique to their airport that monitors the overall condition of their facility and the equipment thereon. Train airport personnel with inspection responsibilities to understand inspection standards.

The extent and frequency of the inspection and amount of information recorded depends largely on the complexity of the airport's operations. Records should be kept, even for daily runway checks for Foreign Object Debris (FOD) and weekly inspections of runway lights. Maintained records and associated actions provide managers a method to demonstrate their efforts in maintaining a safe flight environment.

The following paragraphs provide an overview of the different types of inspections and major inspection areas.

5.2 Types of Inspections

- Continuous Surveillance – Procedures to inspect daily airport activities including; facilities, areas prone to FOD, airfield lighting, construction, fueling, etc. that have been identified to require continuous surveillance. Hazardous conditions can occur at any time and in a short period of time.
- Regularly Scheduled - These inspections assess the airport's physical facilities. They should be conducted weekly at varying times of the day and night in order to observe airport operations during all operating conditions. Conduct inspections during times when aircraft activity is low in order to minimize impact upon airport operations.
- Periodic Condition Inspection- This type of inspection is required to evaluate activities and facilities such as fueling trucks, pavement condition, clearance of the approach/ departure routes, Precision Approach Path Indicator (PAPI) angle, etc. The time interval could be weekly, monthly, or quarterly depending on the activity or facility to be observed or inspected.

SAFETY INSPECTIONS

- Special Inspections - Inspections necessary after receiving a complaint or when an unusual event occurs (aircraft accident, severe weather event, etc.). Site inspections should also occur after construction activity to assure the area is clear of hazards and construction was to standard.
- Bureau of Aviation or FAA Inspections – These inspections are conducted by personnel from the Bureau of Aviation or FAA to confirm that the airport is in compliance with applicable licensing and compliance requirements.

5.3 Inspection Checklists and Record Keeping

Checklists are important administrative tools for airport management to inspect, record, and track airport hazards. Managers should develop checklists that are unique to the specific airport's activities and operations.

Checklists should be used for all inspections and should include the name of the person performing the evaluation and the date the inspection takes place. The inspection report should indicate what was checked, the status found during the inspection, and actions taken to either correct the deficiency or document an issue as an open item on a maintenance log.

Discrepancies that cannot be corrected immediately should be evaluated for severity of risk, and if necessary the manager should restrict exposure to the hazard and issue a Notice to Airmen (NOTAM) reporting the condition(s). NOTAM submittal procedures can be found in Section 8.

Checklists should be retained along with maintenance logs for both trend analysis and safety risk management. Comparing records from a number of inspections can help give the manager a better idea of any deterioration in equipment, procedures, compliance, and tree growth of potential airspace penetrations.

Records should also be retained to provide historical data in the event the airport maintenance/safety program is ever challenged in court.

NOTE: A checklist for regularly scheduled inspections can be found in Appendix F. Additional checklists can be found in FAA AC 150/5200-18 (Airport Safety Self-Inspection), which is located online at www.faa.gov.

SAFETY INSPECTIONS

5.4 Inspection Areas

a. Runways

- Pavement – Regular inspections should determine the general condition of the pavement. Monitor developing cracks, crumbling pavement or holes. Look for Foreign Object Debris (FOD) to include rocks, dirt, equipment parts, animals, etc.
- Markings – General condition of the runway markings (Centerline, Threshold, Designation, etc.). Are the markings correct, are they faded, what is the condition of the glass beads in the paint?

b. Taxiways

- Pavement - Determine the general condition of the pavement. Monitor developing cracks, crumbling pavement or holes. Look for FOD, to include rocks, dirt, equipment parts, animals etc.
- Markings - Check the general condition of the markings. Are the hold short markings in the correct location? Are the markings fading or peeling? If the airport uses glass beads in the paint, what is their condition?

c. Airport Lighting (Reference FAA AC 150/5340-30 - Design and Installation Details for Airport Visual Aids)

- Runway Lighting- Check the general condition of the runway lights. Are any lights out of service? What is the condition of the globes? Are the lenses properly aligned?
- Is the runway end/threshold lighting configuration correct? Six (6) red/green lights should identify a visual runway and eight (8) red/green lights should identify the end of runways with instrument approaches.
- Are runway and taxiway edge lights mounted with angle iron or another non-frangible mechanism? If so, do any extend excessively above ground and constitute a hazard to aircraft? Non-frangible supports (i.e. angle iron) should not exceed 3 inches above the ground.

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- Displaced threshold lighting should emit green light as viewed by the pilot on approach and should be aligned with the beginning of the threshold bar.
- Runways with an instrument approach procedure should be lighted with a caution zone along the last 2,000 feet of the runway, or one-half the runway length whichever is less, with yellow edge lights oriented in the direction of landing. The yellow lights indicate caution on rollout after landing.

d. Visual Glide Slope Indicator (VGSI) Checks

- The airport's VGSI (PAPI, VASI, etc.) should be inspected for alignment and serviceability on a monthly basis, as per FAA AC 150/5340-26 (Maintenance of Airport Visual Aid Facilities). The airport should designate and train an individual (or individuals) to conduct and document these inspections. Check the obstacle free clearance surface plane (OCS) quarterly for clearance from tree growth, new towers, pole lines, or other obstacles.

e. Airspace Obstructions

- Airport sponsors are expected to monitor, and if necessary survey periodically, the navigable airspace surrounding the airport for the presence of obstructions. Inspectors should take note of any trees, brush, poles, or objects that obstruct the aircraft maneuver areas (approach surfaces, runway area, taxi lanes). Remove obstructions when found and alert pilots of any hazards that cannot be immediately addressed. The PA Bureau of Aviation will conduct an airspace assessment during the airport's annual safety inspection.

f. Public Protection

- Every measure should be taken to protect the general public from hazards that exist on-airport. Emphasis should be placed on areas of common use such as parking lots, sidewalks, terminals, and FBO facilities.
- Safeguards should be taken to prevent inadvertent entry to the airfield. Protection from aircraft blast can be provided through fencing, signage, and other proactive measures.

SAFETY INSPECTIONS

5.5 Inspection Follow-up

Managers are responsible for ensuring discrepancies noted during inspections are either corrected immediately or a plan for correction is established.

Maintaining a deficiency log will help prioritize work efforts and retain visibility of unresolved issues. Discrepancies are addressed by instituting either a material fix, establishing a procedural control, or through outright elimination of the hazard.

Unresolved problems of a higher risk may require the publication of a NOTAM to alert pilots of a hazardous condition, change of procedure or applicable restriction.

5.6 Open Comment/Feedback Program

All personnel operating on an airport have a measure of responsibility in preventing accidents and assuring public safety.

Airport management should encourage feedback from users of the airport of any operational safety concerns. Hazards cannot be resolved unless they are identified. Items to report include FOD, wildlife issues, inoperative lights, fire extinguishing equipment concerns, and anything out of the ordinary that may occur between routine inspections.



SECTION 6: FUEL OPERATIONS

6.1 Introduction

Airport Managers must maintain close supervision over all fuel activities occurring on the airport to assure compliance with safety codes, standards and operational precautions to protect the safety of airport employees, facilities, and the public in general.

The three critical areas of fuel management are: fuel quality, operational safety, and emergency response preparedness.

Airports that provide self-service facilities must be particularly cognizant of the potential hazards associated with untrained personnel conducting refueling operations in an unmonitored environment.

The following sections provide an overview of the codes and agencies regulating fuel handling at airports and detail the operational safeguards and procedures expected to maintain a safe fuel management program.



FUEL OPERATIONS

6.2 Codes, Agencies and Standards

Federal: FAA AC 150-5230-4 (Aircraft Fuel Storage, Handling, Training and Dispensing on Airports). Although non-certificated airports are not required to develop a formal fuel management program, the FAA recommends use of the guidance contained in this AC to develop such standards for aviation safety.

National: National Fire Protection Association (NFPA)

NFPA 10 – Standard for Portable Fire Extinguishers.

NFPA 30 – Flammable and Combustible Liquids Code.

NFPA 407 – Standard for Aircraft Fuel Servicing.

NFPA 408 – Standard for Aircraft Portable Fire Extinguishers.

State: PA Department of Environmental Resources, Division of Storage Tanks.

PA Department of Labor and Industry, Flammable and Combustible Storage Division.

Local: Local fire codes may also govern airport fuel operations.

6.3 Responsibilities

All personnel involved in the transportation, storage, or dispensing of aviation fuel on the airport are expected to understand the precautions associated with these toxic, volatile substances, and know how to respond should an emergency or spill occur.

The Airport Manager is ultimately responsible for the safe storage and delivery of uncontaminated aviation fuel under their jurisdiction or control. Within this responsibility is the practical requirement to assure safe working conditions, prevention of injury to persons, and the protection of property.

Fuel delivery companies should be monitored in their activities to assure compliance with all expected standards of safety. Fuel manufacturers and distributors may have specific training materials and/or safety instructions available for review. These materials should be obtained, provided to airport personnel, and available for review.

FUEL OPERATIONS

Airport tenants and pilots are expected to understand the hazards associated with fuel storage and handling and comply with the airport's expectation for fuel safety.

Fuel-related mishaps such as excessive spills or fires should be reported to the PA Department of Environmental Protection, as necessary or appropriate.

6.4 General Fuel System Checks

- Fueling areas shall be posted with "no smoking" signs.
- Dispensing unit clearly marked to show type or grade of fuel.
- Portable fire extinguishers inspected within past 12 months.
- The following directives posted at the refueling station:
 - "Aircraft bonding is required prior to fueling."
 - "Aircraft engines and heaters off during fueling operations."
 - "All fueling operations shall be suspended when lightning flashes are observed". Establish procedures for recommencing fueling operations after lightning strikes.
- Emergency fuel shutoff controls should be located outside the probable spill area. The emergency shutoff is typically located between 20 and 100 feet from the pumps and in the direction likely taken to seek help and/or retrieve a fire extinguisher.
- Instructions on how to handle a fuel spill are posted.
- Availability of a Spill Kit near the fueling area.
- Fuel facilities are protected/secured from access or use by unauthorized persons.
- Fire extinguishers should be readily available and clear of elements such as snow and ice.

NOTE: 'ABC' type fire extinguishers should not be used on aircraft or electronics. The ammonium-phosphate chemical agent in ABC extinguishers is highly corrosive to aluminum. If an ABC extinguisher is used on an airplane, it may be necessary to disassemble the aircraft piece by piece to accomplish cleanup. Ammonium-phosphate cannot be simply washed out as the B-C dry chemical agents can.

FUEL OPERATIONS

6.5 Fueling Station

- Fuel system is adequately grounded.
- Must be clearly marked to show type or grade of fuel.
- Bonding cables are available and in fair to good condition.
- Emergency Fuel shutoff controls are available and placarded with 'EMERGENCY FUEL SHUTOFF' in letters at least 2 inches high.
- Emergency fuel Shutoff should be operationally checked at least every 6 months.
- Pumps not on an island are protected with pipe bollards or suitable protection.
- Areas adjacent to or behind fire extinguishers shall be painted with a contrasting color.
- Aviation fuel must be checked for possible contaminants on regular basis and accurate logs kept.

6.6 Fuel Trucks

- Trucks are parked a minimum of 10 feet apart for accessibility and fire control.
- Must be clearly marked to show type or grade of fuel.
- Trucks are parked a minimum of 50 feet from any parked aircraft and buildings, other than maintenance facilities and garages for fuel servicing vehicles.
- Top deck platforms have an "Emergency Fuel Shutoff" operable from the deck.
- Bonding cables are available and in serviceable condition.
- No smoking signs are posted prominently in the cab of every fueling truck.
- Trucks should have at least two (2) emergency shutoff controls, one on each side.
- Truck has two (2) fire extinguishers, one on each side, each rated at least 20 B-C.

FUEL OPERATIONS

6.7 Fuel Storage Tanks

- Fuel storage tanks shall conform to the applicable requirements of NFPA 30 (Flammable Liquids Code).
- Tanks should provide for adequate bonding and grounding to guard against electrostatic hazards.
- Tanks should be clearly marked indicating contents.
- Tanks have adequate spill protection/containment vessels.

6.8 Self Service Fuel

- Operating instructions are posted at the fuel pumps.
- Emergency instructions are posted in the dispensing area and at the Emergency Fuel Shutoff control and include:
 - Use of the Emergency Shutoff Control (i.e. push or pull)
 - Instructions in case of fire or spill
 - Specific phone numbers for local fire emergency reporting
- A minimum of one (1) fire extinguisher is at the pump and one at the Emergency Shutoff Control, at least 20 B-C rating.

6.9 Training for Fueling Personnel

- Use of personal protective equipment when fueling.
- Actions to respond to an emergency (fire, fuel spill, etc.)
- Emergency fuel shutoff locations and operations.
- Fire extinguishing equipment locations, operation, agents and precautions.
- Hands on training in proper use of hand held fire extinguishers.
- First aid for fuel contact with skin, eyes, etc.
- Reporting/correction of abnormal conditions.
- Actions in the event of a spill.
- Codes, regulations, policies governing fueling operations.
- Bonding versus grounding.

FUEL OPERATIONS

- Procedures for where, when, and how to bond.
- Standard operating procedures and unacceptable conditions.
- Protection against fire.
- Records retention to document all safety or fuel system training.
- Authorized duties and responsibilities.
- Fueling procedures for over/under wing operations.
- Types of fuel and general characteristics including flash points and auto ignition temperatures.
- Hazards of fuel vapors and flash points.
- Routine checks, procedures, and standards.
- Static electricity sources and precautions.
- Conditions requiring the cessation of fueling operations.
- Required markings, labels, placards, signs.

6.10 Oil Storage

The Oil Pollution Prevention Regulation, 40 CFR Part 112, sets forth requirements for prevention of, preparedness for, and response to oil discharges at specific non-transportation-related facilities.

40 CFR Part 112 requires facilities to develop and implement a site-specific Spill Prevention, Control, and Countermeasures plan (SPCC) to address:

- Operating procedures to prevent an oil discharge
- Control measures to prevent an oil discharge from entering navigable waters
- Countermeasures to contain, clean up, and mitigate the effects of any oil discharge that affects navigable waters.

A SPCC Plan applies to any facility that uses, stores, manipulates, or consumes oil in most any form or poses a risk of discharging oil in harmful quantities. A spill plan must be in place to prevent an oil discharge, control of a spill if it occurs, and mitigate any effects of a spill that reaches navigable waters.

SECTION 7: WILDLIFE HAZARDS

7.1 Introduction

Certain land uses have the potential to attract wildlife. Aircraft strikes with wildlife have resulted in the loss of hundreds of lives worldwide and billions of dollars in aircraft damage. Airport Managers must be aware of the wildlife hazards affecting their airport and take action to mitigate these natural hazards.

7.2 Wildlife Attractants

Many airports have large tracts of open, undeveloped land that may attract wildlife that accidentally enter an airport's area of operation. Constructed or natural areas—such as poorly drained locations, large grassy areas, detention/retention ponds, landscaping, disposal operations, and wastewater treatment plants—can provide wildlife with ideal locations for feeding, loafing, reproduction, and escape. See FAA AC 150/5200-33 (Hazardous Wildlife Attractants On or Near Airports).

7.3 Agriculture Near Runways

Because most, if not all, agricultural crops can attract hazardous wildlife during some phase of production, the FAA recommends against the use of airport property for agricultural production. Where such use is permitted, crops and machinery are subject to all airport design criteria, including horizontal and vertical clearances associated with runways, taxiways/taxilanes, and aprons (AC 15/5300-13).

7.4 Wildlife Strike Reporting

Reporting of wildlife strikes with civil aircraft in the United States is voluntary, but strongly encouraged. Analysis has demonstrated that bird strikes have significantly increased from 1990 to 2015.

Managers at airports prone to wildlife issues are encouraged to establish procedures for local and transient pilots to communicate any wildlife strikes or significant sightings. Copies of FAA form 5200-7 Bird/Other Wildlife Strike Report, should be available at the airport or visit the FAA website directly to submit electronically at faa.gov.

WILDLIFE HAZARDS

7.5 USDA (US Dept of Agriculture) Wildlife Services

For assistance in resolving wildlife conflicts, the USDA Wildlife Services branch can assist. The USDA-APHIS-WS (Wildlife Services) program provides federal leadership for resolving conflicts between wildlife and people.

The WS program consists of professional biologists available for consultation and relocations services in all 50 States. Further assistance in management programs for wildlife control can be attained by contacting the state office in Harrisburg at 1-866-487-3297 or visit their website at www.aphis.usda.gov.



The windshield of a twin-engine Beechcraft after striking a Western Grebe (courtesy of www.nationalgeographic.com)

SECTION 8: NOTAMS

8.1 Introduction

A Notice to Airmen (NOTAM) is a notice filed with the FAA **to alert pilots** of potential hazards along a flight route or at an airport. NOTAMS are initiated by designated individuals at the airport anytime a situation arises that may affect the safety of flight operations.

NOTAMS are posted for a variety of reasons, including but not limited to:

- Construction occurring on or nearby the airport
- Runways or taxiway closure or modification
- Adverse runway conditions (snow/ice/water)
- Airfield lighting or VGSI is out of service
- Emergency situations such as sinkholes or pavement problems
- Wildlife such as flocks of birds on or near the airport
- Inoperable communication equipment or navigation aids
- Hazards such as air shows, parachute jumps, hot air balloons, rocket launches on or nearby the airport
- Temporary erection of obstacles near airports (e.g., cranes)
- Inoperable obstruction lighting on tall towers or structures

8.2 Originating a NOTAM

The Airport Manager must coordinate with the FAA Flight Service Station (FSS) to provide an up-to-date list of airport employees who are authorized to issue NOTAMS. Using authorized airport personnel will help to expedite the NOTAM processing because information obtained from unauthorized personnel must be confirmed by the FSS before a NOTAM will be issued.

There are two different ways to post a NOTAM.

The preferred way is via the '**NOTAM Manager**', an online tool that allows you to effortlessly post a NOTAM after registration at <http://notamdemo.aim.nas.faa.gov>.

NOTAMS

The second way is to call the FAA NOTAM Hotline (Lockheed Martin Flight Services) at 1-877-487-6867 and verbally submit.

- Airport operators are expected to alert the flying public about any condition on or in the vicinity of the airport, (within 5 statute miles) existing or anticipated, that will prevent, restrict, or present a hazard during the arrival or departure of aircraft.
- NOTAMs are typically not issued more than 3 days before the expected condition is to occur.
- Be aware of Temporary Flight Restrictions (TFR) that may affect airport operations.

8.3 Composing the NOTAM.

Wherever possible, NOTAMs must use official contractions and abbreviations. Official contractions and abbreviations designated for International Civil Aviation Organization (ICAO) usage are found in Appendix E of this handbook and **FAA Order 7930.2**, Notices to Airmen (NOTAM).

8.4 Types of NOTAMs

NOTAMs are classified by categories:

NOTAM (D) or Distant NOTAMs

A NOTAM (D) information is disseminated for all public use airports that are part of the National Airspace System (NAS), and all navigational facilities, seaplane bases, and heliports listed in the Airport/Facility Directory (A/FD) (e.g., information such as whether or not an airport or facility is usable).

Flight Data Center (FDC) NOTAMs

The National Flight Data Center will issue these NOTAMs when it becomes necessary to disseminate information regulatory in nature, containing such things as amendments to published Instrument Approach Procedures (IAPs) and aeronautical charts. They are also used to broadcast temporary flight restrictions.

NOTAMS

Pointer NOTAMS

NOTAMs issued by a Flight Service Station to highlight or point out another NOTAM, such as an FDC or (D) NOTAMs. These NOTAMs assist users in cross-referencing important information that may not be found under an airport or NAVAID identifier.

Airspace NOTAMS

Any airspace with defined dimensions within the National Airspace System wherein limitations may be imposed upon aircraft operations permanently or for specified periods of time. This airspace includes restricted areas, prohibited areas, military operations areas, air ATC assigned airspace, and any other designated airspace areas.

Military NOTAMS

NOTAMs pertaining to U.S. Air Force, Army, Marine, and Navy navigational aids/airports that are part of the NAS.

International NOTAMS

NOTAMs received by the U.S. NOTAM office for international airspace, navigational aids, airports, and facilities.

8.5 Record Keeping

Airport Managers should post the airport's published NOTAMs in the pilot flight planning areas to help communicate conditions or hazards on the airport. A log of NOTAMs originated by the airport should be maintained to track how the airport was represented to the aviation public. The FAA's 'NOTAM Manager' program provides the service of maintaining records.

Local airport NOTAM logs should include: the issuing date and time, NOTAM details, initials of person issuing the NOTAM, and when the NOTAM was canceled and by whom. Proper record keeping helps validate the airport sponsor's overall safety program in communicating operational hazards to pilots.

8.6 NOTAM Format

All 'D' NOTAMs must follow a set format with several specific elements:

1. An exclamation point (!)
2. Identifier for the accountable location (e.g., AOO)
3. Identifier for the affected location or nearest public-use airport (e.g., IPT)
4. Keyword (one of the 12 described below):
 - AD Aerodrome
 - AIRSPACE Airspace
 - APRON Apron
 - COM Communications
 - NAV NAVAID
 - (O) Other Aeronautical Information
 - OBST Obstructions
 - RAMP Ramp
 - RWY Runway
 - SVC Services
 - TWY Taxiway
 - (U) Unverified Movement Area
5. Surface identification (if appropriate)
6. Condition being reported
7. Effective time(s) of the condition (reported as WEF, or "when in effect"). The "surface identification" element is used only if needed.

EXAMPLE

!AOO 04/208 PJC RWY 17 CLSD TO LDG DLY SS-SR
1504281248-1505312200

SECTION 9: NAVIGABLE AIRSPACE

9.1 Introduction

All public airports have a zone of protected 'navigable airspace' that exists around them. The size of this zone is defined in Federal Aviation Regulation (FAR) Part 77 (Navigable Airspace). The dimensions depend upon the runway category and types of approach that the airport offers.

This imaginary airspace is expected to be protected from obstructions or development that would conflict with air traffic.

Airport Managers should understand the dimensions of this imaginary airspace existing around their airport, and take action, as necessary, to prevent and/or eliminate airspace obstructions.

Objects affecting airspace include: existing or proposed objects of natural growth, terrain, and equipment permanent or temporary in nature.

The Bureau of Aviation applies the airspace standards of Part 77 in the licensing and evaluation of public airports in Pennsylvania.

Proposals for development nearby public airports must be reviewed by both the FAA and PA Bureau of Aviation for their impact upon navigable airspace and flight safety. FAR Part 77 defines when a Notice of Proposed Construction or Alteration must be submitted and establishes the standards for determining which structures pose a hazard to air navigation.

Airport Managers should understand that there are three (3) distinct sets of airspace standards used to control airspace, develop airports, and establish flight procedures:

- **Federal Aviation Regulation (FAR) Part 77 (Navigable Airspace):** defines the types and dimensions of navigable airspace existing on and around public airports.
- **FAA Advisory Circular 150/5300-13 (Airport Design):** establishes airport design standards such as threshold siting requirements, airport obstacle free zones and safety areas.
- **Standards for Terminal Instrument Procedures (TERPS) Order 8260.3B:** defines guidelines for developing instrument approaches.

9.2 Civil Airport Imaginary Surfaces (FAR Part 77)

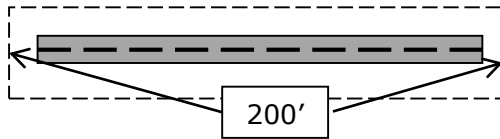
The following sections describe FAR Part 77 civil airport imaginary surfaces and the protected navigable airspace areas.

a. Primary Surface

This is an imaginary surface that should be free of obstruction penetrations except for specified objects that are fixed by function, such as runway lights, VASI, etc. It is longitudinally centered on the runway centerline and extended centerline.

• Hard Surface Runway Primary Surface

The surface for a prepared, hard surface runway (e.g. asphalt, concrete, gravel) extends 200' beyond each runway end.



• Turf Runway Primary Surface

For a runway that has no specially prepared hard surface (e.g. turf) the primary surface ends at the runway end.



The width of the primary surface depends on the runway category and the most precise type of approach available or planned for either end of that runway. The centerline, and extended centerline for hard surface runways, is the mid-point of the surface width from end to end.

Typical obstructions found within the primary surface include: fences, parked aircraft, utility poles, roadways, crops, or brush.

• Utility Runway / Other than Utility Runway

A utility runway is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds maximum gross weight and less. Other than Utility runways accommodate aircraft exceeding 12,500 pounds.

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• Primary Surface Width Dimensions

Category of Runway	Type Approach	Primary Surface Width
Utility	Visual Only	250'
	Non-Precision (one or both ends)	500'
Other Than Utility (>12,500 lbs)	Visual Only and Non-Precision Approach with > $\frac{3}{4}$ mile minimums (one or both ends)	500'
Other Than Utility	Non-Precision Approach(es) with $\frac{3}{4}$ mile minimums (one or both ends)	1,000'
Other Than Utility	Precision Approach (one or both ends)	1,000'

b. Approach Surface

The approach surface provides a clear area to allow a gradual descent to the runway. There are three categories of approach surfaces: visual, non-precision (NP), and precision (P). The slope of the approach surface is based on the runway category.

This surface is longitudinally centered on the runway extended centerline and diverges outward and upward from the end of the primary surface. The width at ground level is the same as the width of the primary surface.

The dimensions of the approach surface for a runway end are based on the type of approach available or planned for that end. The approach area is that airspace above the approach surface. A clear approach has no obstruction penetrations of the surface. The following table lists the approach surface dimensions for the various types of approaches and runway categories.

NAVIGABLE AIRSPACE

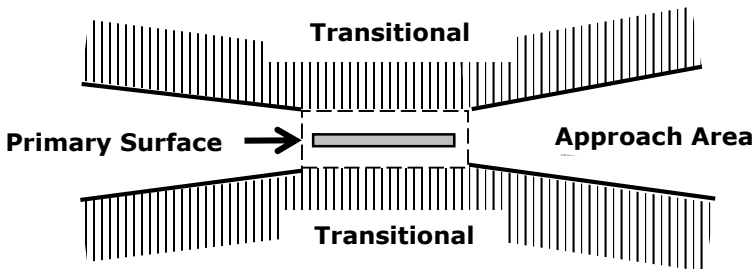
FAR Part 77 Approach Surface Dimensions

Type of Runway	Approach	Primary Surface Width	Length of Approach	Width of Approach Surface at End	Approach Slope
Utility (Hard/Turf)	Visual	250'	5,000'	1,250'	20:1
Utility (Hard/Turf)	NP App > ¾ mi	500'	5,000'	2,000'	20:1
Other than Utility	Visual	500'	5,000'	1,500'	20:1
Other than Utility	NP App > ¾ mi	500'	10,000'	3,500'	34:1
Other than Utility	NP App = ¾ mi	1,000'	10,000'	4,000'	34:1
Other than Utility	Prec App	1,000'	50,000'	16,000'	50:1

NOTE: A visual approach surface would be 500' wide at the primary surface if a non-precision approach (with > ¾ mile minimums) is at the other end of the runway (the primary surface width is 500' for the entire runway). However, the visual approach surface length and width would remain the same.

c. Transitional Surface

This surface extends outward and upward away from the sides of the primary and approach surfaces, at right angles to the runway centerline, at a 7:1 slope.



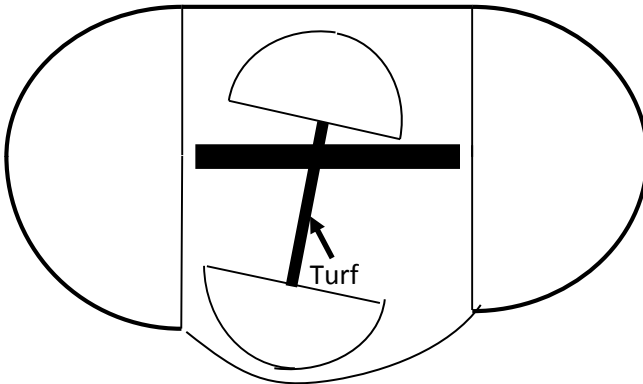
NAVIGABLE AIRSPACE

d. Horizontal Surface

This surface consists of a horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of specified radii from the center of each end of the primary surface of each runway and connecting the adjacent arcs by lines tangent to those arcs. The radius of each arc is:

- 5,000' for all runways designated as utility or visual
- 10,000' for all other runways
- The radius of the arc specified for each end of a runway will be the largest determined for either end of that runway

Horizontal Surface Perimeter: Turf Utility Runway, Other than Utility Runway



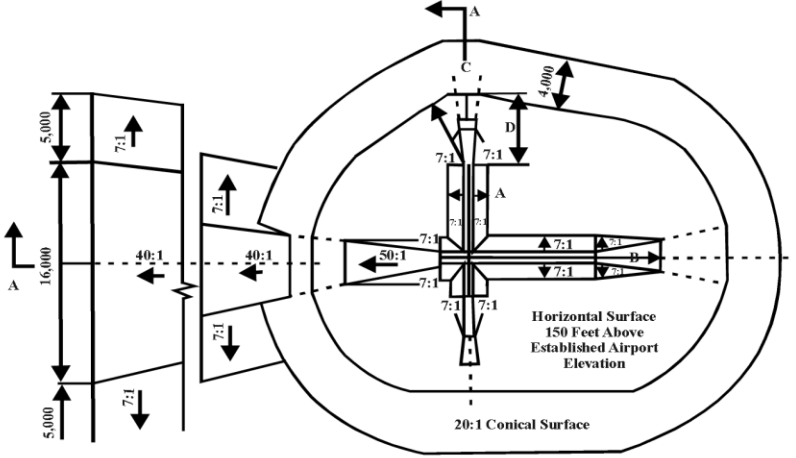
Obstructions such as towers or structures on terrain higher than the airport elevation may penetrate this surface.

e. Conical Surface

The conical surface begins at the perimeter of the horizontal surface and extends outward and upward at a 20:1 slope to a horizontal distance of 4,000'.

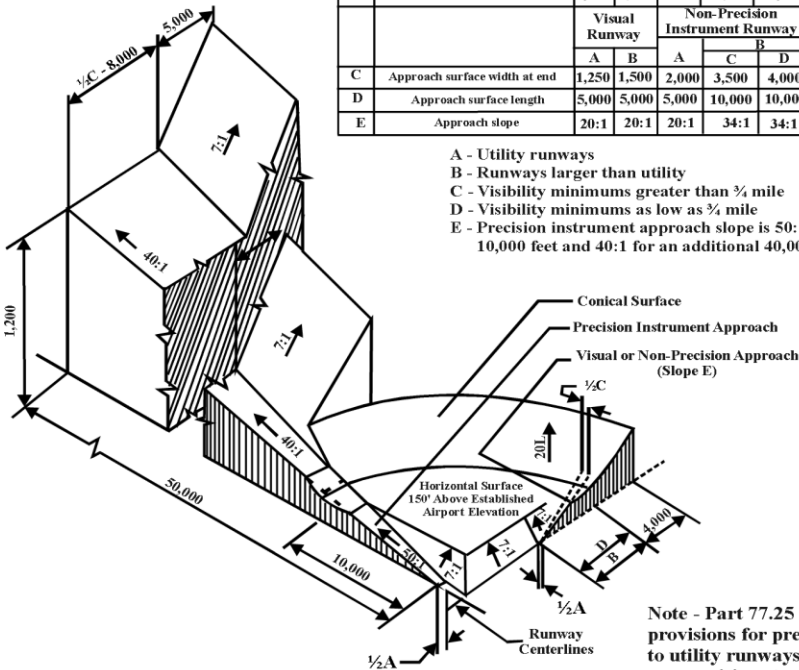
NAVIGABLE AIRSPACE

Civilian Airport Imaginary Surfaces



DIM	ITEM	Dimensional Standards (Feet)					
		Visual Runway		Non-Precision Instrument Runway			Precision Instrument Runway
		A	B	A	B		
A	Width of primary surface and approach surface width at inner end	250	500	500	500	1,000	1,000
B	Radius of horizontal surface	5,000	5,000	5,000	10,000	10,000	10,000
C	Approach surface width at end	Visual Runway		Non-Precision Instrument Runway			Precision Instrument Runway
		A	B	A	B		
D	Approach surface length	1,250	1,500	2,000	3,500	4,000	16,000
E	Approach slope	20:1	20:1	20:1	34:1	34:1	*

- A - Utility runways
- B - Runways larger than utility
- C - Visibility minimums greater than $\frac{3}{4}$ mile
- D - Visibility minimums as low as $\frac{3}{4}$ mile
- E - Precision instrument approach slope is 50:1 for inner 10,000 feet and 40:1 for an additional 40,000 feet



Note - Part 77.25 does not make provisions for precision approaches to utility runways. In these situations, use precision standards for other than utility runways to develop the primary, approach, and transition surfaces.

NAVIGABLE AIRSPACE

9.3 FAA AC 150-5300-13 (Airport Design)

a. Runway Threshold Siting

The runway threshold should be located at the beginning of that portion of the runway that affords a clear 'obstruction free' approach slope. The criteria for siting the threshold is found in FAA Advisory Circular 150-5300-13 (Airport Design).

The dimensions used for siting a threshold depend upon the category of aircraft expected to use the runway and the type of approach available (visual, instrument, day/night, visibility minimums $\frac{3}{4}$ mile or less, etc.).

The minimum approach slope is a 20:1 gradient for visual and instrument approaches with visibility minimums greater than $\frac{3}{4}$ mile; and 34:1 for more precise approaches.

Runway Threshold Siting Approach Dimensions*

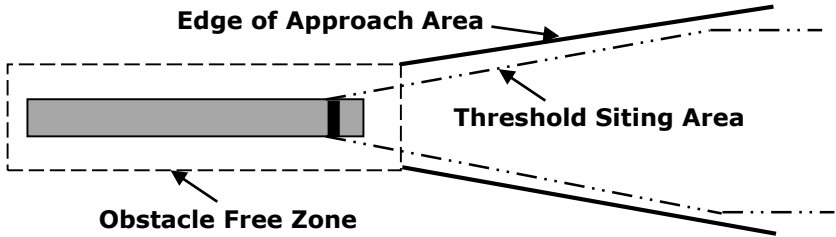
Runway Type	Distance from Rwy End	Inner Width	Outer Width	Distance to Outer Width
Visual Approach only serving small aircraft with approach speeds >50 knots.	0'	250'	700'	2,250'
Visual Approach only serving large aircraft and IFR day only	0'	400'	1,000'	1,500'
Instrument Approach (day or night) serving approach category A and B aircraft only.	200'	400'	3,800'	10,000'

FAA AC 150-5300-13

* Obstructions to the approach surface in these areas may require a displaced threshold.

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Threshold Siting Area



Whereas it may be acceptable to mitigate an object penetrating the approach slope with a VGSI, an object penetrating the threshold siting area may require a displaced threshold or restriction to night landings. A circling approach procedure to a runway will not be authorized when the runway does not meet the threshold siting requirements.

Displaced thresholds should be established at a location on the runway to provide a clear threshold siting surface, with consideration of any obstruction growth. The Bureau can assist sponsors with determining a displaced threshold location.

b. Obstruction Free Zones and Areas

Ground safety obstruction free surfaces exist around public-use runways. Certain objects are permitted within their boundaries necessary for operational safety (such as runway lights, PAPI, signage, etc.). In many cases these areas overlap with Part 77 airspace. The following areas describe the minimum standards for airports accommodating *small airplanes* exclusively:

- **Runway Safety Area (RSA)** A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway - (120ft wide or 300ft wide with minimums $\frac{3}{4}$ mile or less, extending 240ft out from runway end).
- **Object Free Area (OFA)** An area on the ground centered on a runway, taxiway, or taxi lane centerline provided to enhance the safety of aircraft operations by having the area free of objects, except for objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes.

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- **Obstacle Free Zone (OFZ)** The OFZ is the airspace below 150 feet above the established airport elevation and along the runway and extended runway centerline. This area is required to be clear of all objects, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function, in order to provide clearance protection for aircraft landing or taking off from the runway, and for missed approaches- (250ft wide or 300ft wide with approach visibility minimums $\frac{3}{4}$ mile or less, extending 200ft out from runway end).
- **Runway Protection Zone (RPZ)** An area extending from the runway end to enhance the protection of people and property on the ground. The airport should ensure this area is clear, and maintain it clear of incompatible objects and activities. (250ft wide, starting 200ft from the end of paved surfaces or at runway end for turf, extending to 1000ft where its width is 450ft).

9.4 Terminal Instrument Procedures (TERPS)

An airport airspace analysis conducted under Order JO 7400.2, (Procedures for Handling Airspace Matters) as applicable must find the airport acceptable for instrument flight rules (IFR) operations. The airport landing surfaces must be adequate to accommodate the aircraft expected to use the procedure.

The airport infrastructure requirements of FAA Advisory Circular (AC) 150/5340-1, Standards for Airport Markings, and FAA AC 150/5300-13, Airport Design, must be met to achieve the lowest possible minimums.

9.5 Protecting Navigable Airspace

a. Airport Sponsor

The airport sponsor is responsible for compliance with federal and state regulations pertaining to maintaining clear navigable airspace.

As such, Airport Managers should have a thorough understanding of the condition of the airspace around their airport. A comprehensive airspace study may be required to evaluate the full scope of the obstructions depending upon the number, or severity, of obstructions.

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If obstructions exist, action should be taken to mitigate the hazard(s). If removal or lowering is not feasible, other mitigation options may be necessary, such as obstruction lighting, installing a Visual Glide Slope Indicator (VGSI), or worst case scenario displacing the runway threshold. In some cases a formal review by the FAA may be desirable to determine acceptability.

For obstruction mitigation, Airport Managers may need to coordinate with neighboring land owners, the local municipality zoning officer, airport consultants, and at all times with the Bureau of Aviation.

In some situations a sponsor may qualify for state or federal grant money to assist with obstruction mitigation.

b. Municipalities

In 1984, the Commonwealth passed the "Airport Zoning Act" (Act 164) codified at 74 Pa. C.S. §5911-5920, that requires local municipalities to protect the 'navigable airspace' existing around public airports.

"In order to prevent the creation or establishment of airport hazards, every municipality having an airport hazard area within its territorial limits shall adopt, administer, and enforce, under the police power... airport zoning regulations for such airport hazard area." 74 pa.C.S. §5912(a).

The airport sponsor should coordinate with the local municipality(ies) to assure local zoning is in place and assist with the clarification of navigable airspace. The Bureau is available to assist with these efforts.

If an ordinance is not currently in place, the Bureau may be able to assist the municipality in funding the preparation and adoption of an airport hazard zoning ordinance.

NOTE: This law does not apply to heliports or private airports.

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c. Bureau of Aviation

The Bureau reviews the airport's navigable airspace during the annual safety inspection. A general survey of the runway's approach, transitional, and primary surface is taken using survey equipment positioned at the runway ends.

Objects identified as obstructing navigable airspace (per FAR Part 77), are reviewed for their impact upon flight safety. If warranted, action may be required of the airport to remove, lower, or mitigate the obstruction hazards.

In some cases the Bureau's findings may reveal that a more comprehensive survey is necessary to determine the full scope of work necessary to clear the airspace.

All findings of the Bureau's inspection will be detailed in a letter to the airport sponsor (and/or manager).

Several options may exist to mitigate airspace hazards; some may involve a simple fix, others may require close coordination with the FAA, neighbors, and/or municipal officials.

The Bureau can assist with understanding airspace matters, clarifying local zoning requirements, finding obstruction mitigation options, and explaining overall compliance requirements with Federal and State regulations.



SECTION 10: PUBLIC RELATIONS

10.1 Introduction

The ability to shape and enhance the perception of the local community toward your airport is a key element in the airport's long-term survivability. It is crucial that the Airport Manager establish positive relationships within the community and educate them on the positive aspects and value that the airport brings to the community.

Maintaining a safe airport environment and having a comprehensive Airport Emergency Plan that incorporates public officials and media will ensure confidence that airport/public safety is a priority.

10.2 Community Relations and Outreach

Recommended outreach measures include:

- Invite local first responders to the airport for simulated aircraft mishap exercises. This will allow them to become familiar with the airport surroundings, ingress/egress points, and on-airport assets and limitations.
- Consider sponsoring community safety-related events such as CPR/first aid training, fire safety, etc.
- Invite community organizations such as the Chamber of Commerce, Kiwanis, or Rotary to gain an understanding of airport operations, safety initiatives, and the economic values the airport provides to the community. Demonstrate the positive impact the airport provides, such as disaster relief, agricultural operations, law enforcement, restaurant, or any other business.

10.3 Media Relations

- Addressing the media should be incorporated as a key element in your Airport Emergency Plan. As the Airport Manager, you are likely to be the one the media will want to speak with in the event of an on-airport incident.
- Remember, first impressions matter. Your first impression as an Airport Manager should be that of a professional. Appearance, courtesy, and respect are crucial in projecting a good image and fostering good relationships.

PUBLIC RELATIONS

- Be prepared to answer the five "W"s, "who, what, when, where, why, and how" in any situation potentially involving the media. If you don't know the answer to a question, that's okay. Avoid speculation at all costs, and do not say something that could create more problems later on.
- Be proactive. Get to know key individuals in both the print and broadcast media in your area by sending them press releases and inviting them to significant on-airport events. By doing this you can also develop yourself as a subject matter expert and a trusted source for aviation-related issues.

10.4 Handling Complaints

If someone contacts the airport with a complaint, be courteous and listen carefully. Ask questions and get as much information as possible about their concern, ascertaining the five 'W's', including the individual's name and telephone number where feasible. You may need to protect the individual's identity, if asked.

Avoid making any comments that may be misinterpreted. Inform the individual that the complaint will be investigated promptly and that they will receive a response shortly from the airport sponsor, the FAA, the Bureau of Aviation or yourself (depending upon the issue).

Investigate the complaint without delay and determine the proper course of action. If an extended delay is expected in resolving the issue, update the complainant periodically on the status of the issue.

If the individual is not satisfied by the proposed course of action, you may recommend they call the FSDO directly or the FAA "hotline" telephone number (1-800-255-1111). You can locate contact information on the Internet at FAASafety.gov or www.faa.gov.

SECTION 11: AIRPORT SECURITY

11.1 Introduction

Airport security involves the protection of personnel and assets from both criminal acts of violence, theft or destruction, and from accidental incursions onto the runway by personnel or wildlife.

Whether the threat is from international terrorists or just local pranksters, Airport Managers must recognize airport vulnerabilities and act proactively to minimize security risks.

The first step in airport security is to conduct a vulnerability assessment of the airports' security posture. Once the vulnerabilities are identified, precautions can be developed and implemented under an overall Airport Security Plan (ASP). An ASP is tailored to the type of activities and flight operations that occur at that airport.

Security is everyone's responsibility, so airport management needs to involve airport tenants, local law enforcement, public safety/emergency services agencies, pilots/aircraft owners, and airport employees.

Airport Managers should be familiar with the Transportation Security Administration (TSA) Information Publication A-001, ([Security Guidelines for General Aviation Airports](#)), which provides security best practices and tools to assess security risks at general aviation airports.

The following list of actions was compiled from best practice recommendations from airports throughout the Commonwealth. The information is not all-inclusive, but rather a starting point. The Bureau encourages each Airport Sponsor to review these security suggestions and apply them as appropriate for your airport:

11.2 Suggested Airport Security Measures

- Institute frequent patrols of the airport by local enforcement agencies; include state and federal enforcement agencies where appropriate.
- If possible, provide 24-hour FBO service.

AIRPORT SECURITY

- Keep all hangars closed and locked.
- Identify an area that would be used to disarm bombs or ordinance.
- If warranted, employ local law enforcement officers on a regular or part time basis.
- Install lighting in poorly lit or vulnerable areas.
- Keep all airport access gates locked 24-hours a day.
- No curbside terminal building auto parking.
- Clear perimeter fence line of obstructions or any overhanging tree limbs.
- Conduct random and scheduled hangar inspections.
- Limit the size of the airport operations area and access points.
- Create airport buffer zones.
- Create and/or review HAZMAT plan.
- Conduct background checks of employees and tenants.
- Install locks on airfield electrical vaults and other electrical systems.
- Install Security Fencing.
 - Install combination locks to airport pedestrian gates.
 - Permanently secure all gates not in daily use.
 - Install or utilize a gate card system for tracking airport access.

AIRPORT SECURITY

- Issue airport identification credentials.
 - Issue Identification cards to all airport employees.
 - Issue Identification cards to all airport tenants.
 - Issue Identification cards to all airport contractors.
- Use signage to control airport operations area access.
 - Ensure you have adequate 'No Trespassing' signs installed along perimeter fencing.
 - Ensure you have signs on all gates and access points.
 - Install signs restricting apron access to pilots and escorted passengers only.
 - Post No Smoking signs around aircraft operations areas.
 - Post emergency numbers at airport businesses.
- Secure fuel farm(s) and refueling trucks.
 - Lock refueling trucks in the fuel farm at night.
 - Do not park refueling trucks near buildings or fences when not being used.
 - Secure fuel farms and secure access when not in use.
- Keep all aircraft locked and secured.
 - Encourage transient aircraft operators to lock their aircraft.
 - Require the FBOs to keep all aircraft locked and secured on the transient and based aircraft parking line and conduct aircraft counts.

AIRPORT SECURITY

11.3 Local Security Awareness Training

The key to an effective security program is keeping it current and communicating expectations to all personnel involved.

Security training should be provided on an annual basis to employees, tenants, contractors, and anyone else who has authorized access.

Local law enforcement agencies should be made familiar with the airport's facilities and security program so their actions can complement and supplement the airport's efforts.

11.4 Security Program References

While the TSA focuses primarily on regulating commercial service airports, it also publishes a comprehensive guidebook of recommended best practices for general aviation airports: Information Publication A-001 ([Security Guidelines for General Aviation Airports](#)). Additional information can be found at www.tsa.gov.



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SECTION 12: GRANTS AND FINANCIAL AID

12.1 Introduction

This chapter provides a brief overview of the types of financial assistance available to public airports from the Bureau of Aviation. A detailed description of the various programs can be found in the Bureau's Pub 405 available on our webpage.

The Bureau manages the distribution of both federal and state aviation development funds, in the form of grants or loans to qualified public-use airports. Grants are to promote and preserve airports that contribute to the safe, dependable, efficient, and environmentally compatible air transportation system.

NOTE: The Act 89 Transportation Funding Program is not discussed in the booklet.

12.2 Grant Programs

There are four types of airport Grant programs:

- State Block Grant Program (SBGP)/ Federal Airport Improvement Program (AIP)
- State Aviation Development Program (ADP)
- State Capital Budget/Transportation Assistance Program (TAP)
- Local Real Estate Tax Reimbursement Grants Program

a. The Federal Airport Improvement Program (AIP)- State Block Grant Program (SBGP)

Federal funds for the State Block Grant Program are derived from taxes collected nationally on airline tickets, freight waybills, international departure fees, and aviation fuel sales deposited into the FAA Trust Fund. As such, only airports included in the National Plan of Integrated Airport Systems (NPIAS) are eligible for the funds.

AIP grants are used for a variety of airport capital improvements to address safety, capacity, security and environmental concerns.

Approved projects may be funded up to 90 percent of the total eligible costs. Airports receiving a grant must meet various obligations, including operating and maintaining the airport in a safe and serviceable condition, mitigating hazards to airspace, and using airport revenue properly.

AIRPORT GRANTS AND FINANCIAL AID

Qualified NPIAS airports may be eligible for up to \$150,000 annually for non-primary entitlement funds for airport projects. However, if these funds are not used within four years of issuance, they are forfeited and lost to both the airport and state.

b. State Aviation Development Program (ADP)

The ADP is funded through the collection of state taxes on jet fuel. The revenues are deposited into Pennsylvania's Aviation Restricted Account. The ADP can provide assistance to **any public-use airport or heliport** within the Commonwealth.

These grants are issued primarily to expand airport development that preserves or upgrades existing airport facilities, or when practicable, constructs new airport facilities. The Bureau evaluates projects by utilizing the State Project Selection Criteria Guideline. The guidelines define how projects are rated and scored for determining their priority for funding.

ADP grants typically fund 75 percent of the total cost of an eligible non-federally funded project, or 50 percent of the non-federal share of a federally funded project. Approved 'safety' related projects may receive funding up to 90 percent of the project cost.

c. State Capital Budget/Transportation Assistance Program (TAP)

This program enables non-highway projects to receive funds from the Commonwealth General Fund. Funds are available for projects related to aviation, rail, and transportation. Commonly referred to as Capital Budget, the Bureau administers the aviation portion of these funds in accordance with state aviation laws and regulations. TAP grants typically fund 50 percent of total project cost.

Only publically owned, public-use airport projects are eligible to receive this funding. The airport sponsor must have a project listed in an active Capital Budget Act. The project work, scope, and amount listed in the Capital Budget Act are the maximum amount available; this cannot be amended. Projects must have a value of at least \$100,000 and a useful service life of at least 30 years.

AIRPORT GRANTS AND FINANCIAL AID

Examples of typical eligible and ineligible projects are:

Eligible Projects	Ineligible Projects
Runway Construction/Improvement/Repair	Routine Maintenance of Equipment or Vehicles
Taxiway Construction/Improvement/Repair	Maintenance of Buildings for Non-Aviation Use
Apron	Fuel Farms
Pavement Maintenance-Crack Sealing	Landscaping
Access Roads	Marketing Plans
Airfield Lighting, Signage, Fencing, FFE	Aircraft Hangars
Snow Removal Equipment	Industrial Parks
Hazard Removal, Lowering, Moving, Marking, Acquisitions	Commercial Enterprise Improvements
Weather Observation Stations (AWOS)	Training
NAVAIDs such as REILs and PAPIs	Artworks
Airport Layout Plans (ALPs) and Master	
Environmental Studies/Wildlife Assmt.	
Feasibility Studies - Benefit/Cost	

d. Local Real Estate Tax Reimbursement Grant Program

This program allows the sponsor of **any public airport** to receive annual reimbursement for a portion of the monies paid in local real estate taxes. The reimbursement amount is determined by the area of land on the airport that is used in landing, taking off, and surface maneuvering of an aircraft. This includes runways, taxiways, aprons, and other public operational areas considered aviation-related. Not included are hangars, terminals, parking areas, or other for-profit areas not associated with landing and taking-off of aircraft.

12.3 Grant Application

Applicants for aviation grants must comply with application guidelines and demonstrate their ability to meet the local financial match. Although program funds are available annually, projects are typically programmed well in advance.

TABLE 1: SUMMARY OF GRANT PROGRAMS FOR AIRPORT DEVELOPMENT

	SBGP	ADP	Capital Budget Program
Revenue Source	Taxes collected nationally on airline tickets, freight waybills, international departure fees, and aviation fuel sales deposited into the FAA Trust Fund.	Taxes collected on jet fuel sales in Pennsylvania deposited into PennDOT's Aviation Restricted Account	Commonwealth's General Fund's Transportation Assistance Program
Eligible Airports	Non-primary Airports included in the NPIAS ¹	Public-Use Airports	Public-use /publicly-owned Airports with active Capital Budget Act Projects
Eligibility and Evaluation	FAA Order 5100.39, Airports Capital Improvement Plan, and FAA Order 5100.38D, The Airport Improvement Program (AIP) Handbook	Provisions of the Aviation Code (74Pa.C.S. Part II), BOA's aviation grant regulations, and State Project Selection Criteria Guidelines	Provisions of the Aviation Code (74Pa.C.S. Part II), BOA's aviation grant regulations, and State Project Selection Criteria Guidelines
Funding Distribution	Funds may be allocated up to 90% of the total cost of an eligible project at an SBGP airport.	Funds may be allocated up to 90% of the total cost of an eligible project; or 50% of the non-federal share of a federally-funded project. Note: 90% funding is →	Federally Eligible Projects: Up to 75% of non-federal share Non-federally eligible projects: Up to 50% of the project cost

¹ National Plan of Integrated Airport Systems

TABLE 1: SUMMARY OF GRANT PROGRAMS FOR AIRPORT DEVELOPMENT

	SBGP	ADP	Capital Budget Program
		generally reserved for approved "Safety" related projects. "Non-safety" projects are generally limited to 50-75% of project cost.	
Deadline for requesting funding	December 1 via JACIP	December 1 via JACIP	December 1 via JACIP
Funding fiscal year	October 1 to September 30	October 1 to September 30	July 1 to June 30
Funding typically available	Spring of fiscal year	July	July
Tentative Allocations (TAs) sent	March/April	July	September/October

This table is located in Publication 405, found on the Bureau's website, www.penndot.gov

Airport Emergency Quick Reference Checklist

Immediate Actions:

- Call 911
- Execute lifesaving activities
- Secure the scene
- Preserve evidence
- National Transportation Safety Board Communication Center
24 hour phone number for investigative agencies: 202-314-6290. FAA Eastern Regional 24 hour Operations Center:
(718) 553-3100

Establish inner and outer perimeter:

- Protect property
- Prevent the disturbance of wreckage and debris except to preserve life, rescue the injured, or protect the wreckage from further damage.
- Protect and preserve ground scars and marks made by the aircraft.
- Admit public safety personnel access to the wreckage to the extent necessary to preserve life and/or stabilize HAZMAT.
- Maintain a record of personnel who enter the accident site.

Prior to NTSB arrival on scene, restrict access only to authorized personnel:

- Federal Aviation Administration
- Police/Fire/Emergency Medical Service
- Medical Examiner/Coroner
- Other Emergency Services Agency

After NTSB arrival on scene, no access without NTSB authorization:

- BIOHAZARD/HAZMAT:
- Potentially dangerous materials that might be present may include but are not limited to:
- Chemicals-explosives-biological-radioactive materials, fuel, pressure vessels, compressed air, hydraulics, batteries, accumulators, igniters, oxygen systems, oxygen bottles, fire extinguishers, evacuation chutes, flares, composite materials, ballistic parachute systems, tires.

Airport Emergency Quick Reference Checklist**Wreckage Documentation (if possible):**

- Use best judgment to obtain this information or documentation.
- Obtain aircraft registration number (N number)
- Obtain number of casualties.
- Photograph or video the overall wreckage including cockpit and initial point of impact, if possible.
- Photograph or video any ground scars or marks made by the aircraft.

Injured/Fatalities:

- Coordinate with the NTSB prior to the removal of fatalities. If unable, document that part of the scene to be disturbed, including switch/control positions, and instrument/gauge readings.

Witness Documentation:

- Obtain name/address/phone numbers (home & work).
- Obtain their location relative to the accident site.
- Obtain description of what they observed or heard.
- Obtain name of person reporting accident (911 tapes).

Media Relations:

- Consistent with site security policies, only authorized emergency service individuals should be allowed on site.
- No one should speculate on the cause of the accident.
- Refer all media questions about the accident investigation to the NTSB. Local authorities normally retain the responsibility for the release of victims' names.

APPENDIX A (cont)

Airport Emergency Quick Reference Checklist

Airport Emergency Responsibilities

Position or Description	Responsibilities for Airport Emergency
Airport Manager	<ul style="list-style-type: none"> • Serve as Emergency Coordinator.* • Assume Incident Command responsibility for all response and recovery operations, as appropriate, until relieved by local emergency response agencies. • Establish, promulgate, coordinate, maintain, and implement the Airport Emergency Plan. • Contact 911 and provide appropriate alerts and notifications. • Coordinate the closing of the airport when necessary and initiate the dissemination of relevant safety-related information to aviation users (NOTAMs).
Aircraft Operator/Air Carrier	<ul style="list-style-type: none"> • Provide full details of aircraft-related information, as appropriate, to include number of persons, fuel, and dangerous goods on board. • Coordinate transportation, accommodations, and other arrangements for uninjured passengers. • Coordinate use of air carrier/aircraft personnel and other supplies and equipment for all emergencies occurring at the airport.
Fire Chief /Department	<ul style="list-style-type: none"> • Manage and direct firefighting and rescue operations. • Direct search and rescue or hazardous materials response. • Coordinate mutual aid resources through Incident Command System. • Assist with search/rescue or evacuations. • Assume Incident Command, as appropriate.

(AIRTAP Emergency Guidebook for General Aviation, www.airtap.umn.edu)

***Note: In the absence of the Airport Manager, an airport staff person should serve as the Emergency Coordinator until the Airport Manager is on-site.**

APPENDIX B

Aircraft Accidents and Incidents

Definitions

-Aircraft accident: Any occurrence associated with the operation of an aircraft that takes place between the time a person boards the aircraft with the intention of flight and the time such person has disembarked, in which a person suffers death or serious injury, or in which the aircraft receives substantial damage.

-Aircraft incident: An occurrence other than an accident, associated with the operation of an aircraft which affects, or could affect, the safety of operations.

Incident Classification System

Alert level 1: An aircraft is known or suspected to have an operational defect that should not normally cause serious difficulty in achieving a safe landing.

Alert level 2: An aircraft is known or suspected to have an operational defect that affects normal flight operations to the extent that there is danger of an accident.

Alert level 3: An aircraft accident has occurred on or in the vicinity of the airport.

Organizational Response and Responsibilities

Airport Staff

- RESPOND
- Locate the aircraft owner/operator if pilots or passengers are unable to communicate.
- Check with the FBO for any parties that might have been waiting for or associated with the aircraft.
- Check with the FAA operations center to determine if a flight plan exists for the aircraft and obtain related pilot and owner information.
- If the aircraft tail number is readable or known, use the Internet to quickly determine the owner/ operator at http://registry.faa.gov/aircraftinquiry/NNum_Inquiry.aspx

APPENDIX B (cont)

Aircraft Accidents and Incidents

- The Airport Manager will notify appropriate officials, assist with the investigative process, and provide documentation, including the Airport Incident Report form.

Fire Department

Fire department personnel on the scene will assume Incident Command and will direct all efforts of fire suppression and rescue of individuals involved in the incident. The Incident Commander will assess the situation and ensure that adequate equipment is available for rapid fire suppression, rescue of victims, and transportation of victims to area hospitals. The scene Incident Commander should maintain contact with the Airport Manager.

Fire/Police Dispatch should advise airport staff of the applicable fire department radio talk group or provide a radio patch to facilitate efficient response and coordination (e.g., directions to the emergency site, recommended access gate).

Police Department/Department of Public Safety

- Secure the area and ensure the free flow of emergency equipment into the incident scene.
- Handle crowd control, site security, and control of ingress and egress to the incident scene by authorized personnel.
- Assist firefighters in the suppression of fire and rescue of victims if requested by the Incident Commander.
- Treat the accident/incident scene as a major crime scene and secure as such.

Airport Tenants

Airport tenants and their employees should be considered a prime source of readily available equipment and labor and may have an intimate knowledge of the airport and the aircraft. These individuals can be invaluable, especially if their background includes aircraft maintenance, medical training, or aircraft transportation.

APPENDIX B (cont) Aircraft Accidents and Incidents

Airport Tenants are used on a voluntary basis only. It is imperative that these individuals be deployed under supervision and assigned specific functions to avoid duplication of efforts and the possibility of disrupting the other emergency operations.

Emergency Medical Services (EMS)

EMS will provide emergency medical services to include triage, patient care, and transport. EMS will coordinate with the applicable Hospital and Incident Command Center for any required mutual aid.

APPENDIX C DEFINITION OF TERMS

1. DEFINITIONS. As used in this publication, the following terms mean:

-Accelerate-stop distance available (ASDA). The runway plus stopway (SWY) length declared available and suitable for the acceleration and deceleration of an airplane aborting a takeoff; and landing.

-Aircraft. Approach Category. A grouping of aircraft, based on 1.3 times their stall speed in their landing configuration at the certificated maximum flap setting and maximum landing weight at standard atmospheric conditions. The categories are as follows:

Cat A: Speed less than 91 knots.

Cat B: Speed 91 knots or more but less than 121 knots.

Cat C: Speed 121 knots or more but less than 141 knots.

Cat D: Speed 141 knots or more but less than 166 knots.

Cat E: Speed 166 knots or more.

-Airplane Design Group (ADG). A grouping of airplanes based on wingspan or tail height. Where an airplane is in two categories, the most demanding category should be used. The groups are as follows:

-Group I: Up to but not including 49 ft. wingspan or tail height up to but not including 20 ft.

-Group II: 49 ft. up to but not including 79 ft. wingspan or tail height from 20 up to but not including 30 ft.

-Group III: 79 ft. up to but not including 118 ft. wingspan or tail

height from 30 up to but not including 45 ft.

-Group IV: 118 ft. up to but not including 171 ft. wingspan or tail height from 45 up to but not including 60 ft.

-Group V: 171 ft. up to but not including 214 ft. wingspan or tail height from 60 up to but not including 66 ft.

Group VI: 214 ft. up to but not including 262 ft. wingspan or tail height from 66 up to but not including 80 ft.

Table 1-1. Airplane Design Groups (ADG) Group # Tail Height (ft.) Wingspan (ft.)

I <20 <49

II 20 - <30 49 - <79

III 30 - <45 79 - <118

IV 45 - <60 118 - <171

V 60 - <66 171 - <214

VI 66 - <80 214 - <262

-Airport Elevation. The highest point on an airport's usable runway expressed in ft. above mean sea level (MSL).

-Airport Layout Plan (ALP). The plan of an airport showing the layout of existing and proposed airport facilities.

-Airport Reference Point (ARP). The latitude and longitude of the approximate center of the airport.

-Blast Fence. A barrier used to divert or dissipate jet blast or propeller wash.

-Building Restriction Line (BRL). A line which identifies suitable building area locations on airports.

APPENDIX C DEFINITION OF TERMS

-Clearway (CWY). A defined rectangular area beyond the end of a runway cleared or suitable for use in lieu of runway to satisfy takeoff distance requirements.

-Compass Calibration Pad. A concrete or asphalt pad used to calibrate aircraft compass.

-Declared Distances. The distances the airport owner declares available for the airplane's takeoff run, takeoff distance, accelerate-stop distance, and landing distance requirements. The distances are:

-Fixed By Function NAVAID. An air navigation aid (NAVAID) that must be positioned in a particular location in order to provide an essential benefit for civil aviation is fixed by function. Exceptions are:

a. Equipment shelters, junction boxes, transformers, and other appurtenances that support a fixed by function NAVAID *are not* fixed by function unless operational requirements require them to be located in close proximity to the NAVAID.

b. Some NAVAIDs, such as localizers, can provide beneficial performance even when they are not located at their optimal location. These NAVAIDS are not fixed by function.

-Frangible NAVAID.

A navigational aid (NAVAID) which retains its structural integrity and stiffness up to a designated maximum load, but on impact from a greater load, breaks,

distorts, or yields in such a manner as to present the minimum hazard to aircraft. The term NAVAID includes electrical and visual air navigational aids, lights, signs, and associated supporting equipment.

-Hazard to Air Navigation.

An object which, as a result of an aeronautical study, the FAA determines will have a substantial adverse effect upon the safe and efficient use of navigable airspace by aircraft, operation of air navigation facilities, or existing or potential airport capacity.

-Inner-approach OFZ.

The airspace above a surface centered on the extended runway centerline. It applies to runways with an approach lighting system.

-Inner-transitional OFZ.

The airspace above the surfaces located on the outer edges of the runway OFZ and the inner-approach OFZ. It applies to runways with approach visibility minimums lower than 3/4-statute mile.

-Landing distance available (LDA).

The runway length declared available and suitable for a landing airplane.

-Large Airplane. An airplane of more than 12,500 pounds maximum certificated takeoff weight.

- Object. Includes, but is not limited to above ground structures, NAVAIDS, people, equipment, vehicles, natural

APPENDIX C

DEFINITION OF TERMS

growth, terrain, and parked aircraft.

-Object Free Area (OFA).

An area on the ground centered on a runway, taxiway, or taxi-lane centerline provided to enhance the safety of aircraft operations by having the area free of objects, except for objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes.

-Obstacle Clearance Surface (OCS).

An inclined obstacle evaluation surface associated with a glidepath. The separation between this surface and the glidepath angle at any given distance from GPI defines the MINIMUM required obstruction clearance at that point.

-Obstacle Free Zone (OFZ).

The OFZ is the airspace below 150 ft. above the established airport elevation along the runway and extended runway centerline that is required to be clear of all objects, except for frangible visual NAVAIDS that need to be located in the OFZ because of their function, in order to provide clearance protection for aircraft landing or taking off from the runway, and for missed approaches. The OFZ is subdivided as follows:

-Obstruction to Air Navigation.

An object of greater height than any of the heights or surfaces presented in Subpart C of Code of Federal Regulation (14 CFR), Part 77. (Obstructions to air navigation

are presumed to be hazards to air navigation until an FAA study has determined otherwise.)

-Precision Approach Category I (CAT I) Runway.

A runway with an instrument approach procedure which provides for approaches to a decision height (DH) of not less than 200 ft. and visibility of not less than 1/2 mile or Runway Visual Range (RVR) 2400 (RVR 1800 with operative touchdown zone and runway centerline lights).

-Precision Approach Category II (CAT II) Runway.

A runway with an instrument approach procedure which provides for approaches to a minima less than CAT I to as low as a decision height (DH) of not less than 100 ft. and RVR of not less than RVR 1200.

-Precision Approach Category III (CAT III) Runway.

A runway with an instrument approach procedure which provides for approaches to minima less than CAT II.

-Runway (RW). A defined rectangular surface on an airport prepared or suitable for the landing or takeoff of airplanes.

-Runway Blast Pad. A surface adjacent to the ends of runways provided to reduce the erosive effect of jet blast and propeller wash.

-Runway Protection Zone (RPZ).

An area off the runway end to enhance the protection of people and property on the ground.

APPENDIX C DEFINITION OF TERMS

-Runway Safety Area (RSA). A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway.

-Shoulder. An area adjacent to the edge of paved runways, taxiways, or aprons providing a transition

between the pavement and the adjacent surface; support for aircraft running off the pavement; enhanced drainage; and blast protection.

-Small Airplane. An airplane of 12,500 pounds or less maximum certificated takeoff weight.

-Stopway (SWY). A defined rectangular surface beyond the end of a runway prepared or suitable for use in lieu of runway to support an airplane, without causing structural damage to the airplane, during an aborted takeoff.

-Takeoff Distance Available (TODA). The TORA plus the length of any remaining runway or clearway (CWY) beyond the far end of the TORA;

NOTE: The full length of TODA may not be usable for all takeoffs because of obstacles in the departure area. The usable TODA length is aircraft performance dependent and, as such, must be determined by the aircraft operator before each takeoff and requires knowledge of the location

of each controlling obstacle in the departure area.

-Takeoff Run Available (TORA). The runway length declared available and suitable for the ground run of an airplane taking off.

-Taxilane (TL). The portion of the aircraft. Parking area used for access between taxiways and aircraft parking positions.

-Taxiway (TW). A defined path established for the taxiing of aircraft from one part of an airport to another.

-Taxiway Safety Area (TSA). A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway.

-Transportation Security Administration (TSA). Charged with providing effective and efficient security for passenger and freight transportation in the United States

-Threshold (TH). The beginning of that portion of the runway available for landing. In some instances, the landing threshold may be displaced.

-Displaced Threshold. A threshold that is located at a point on the runway other than the designated beginning of the runway.

-Visual Runway. A runway without an existing or planned straight-in IAP.

APPENDIX D

FAA Regulations and References

A. Federal Aviation Regulations (FAR).

- **FAR Part 43- Aircraft Maintenance, Preventive Maintenance-** Prescribes the rules governing aircraft maintenance.
- **FAR Part 61- Certification of Pilots and Flight Instructors-** Prescribes the rules governing pilot certification requirements.
- **FAR Part 77-Objects Affecting Navigable Airspace-** Prescribes the standards used to determine obstructions to air navigation and establishes the requirements to provide notice to the FAA of proposed construction and/or alteration activities that may create obstructions to air navigation.
- **FAR Part 91- General Operating and Flight Rules-** Prescribes rules governing the operation of aircraft (with the exception of aircraft governed under Part 101 and Part 103).
- **FAR Part 103- Ultra light Vehicles -** Prescribes the rules governing ultralight vehicles (weighing less than 155 pounds if unpowered and if powered weighing less than 254 pounds and having a fuel capacity not exceeding 5 U.S. gallons).
- **FAR Part 105- Parachute Jumping-** Prescribes the rules governing skydiving.
- **FAR Part 121- Air Carrier Certification-** Prescribes the rules governing domestic, flag, and supplemental operations which comprise the majority of scheduled air carrier operations.
- **FAR Part 135- Commuter and On Demand Operations-** Prescribes rules governing commuter and "on demand" operations.
- **FAR Part 139- Certification of Airports-** Prescribes rules governing airports that either have scheduled passenger carrying air carrier operations with aircraft configured for 9 or more passengers, or unscheduled passenger carrying air carrier operations with aircraft configured for 31 passengers or more. Some airports that don't meet this criteria still have Part 139 certificates however.

APPENDIX D (cont)

FAA Regulations and References

- **FAR Part 151- Federal Aid to Airports** – Prescribes the policies and procedures pertaining to the FAA’s administration of its program to provide federal assistance to airports.
- **FAR Part 157- Notice of Construction, Alteration, Activation, and Deactivation of Airports** – Prescribes the requirements for notifying the FAA for a person proposing to construct, alter, activate, deactivate, or alter the status of, an airport.

B. Advisory Circulars

- AC 70/7460-1, Obstruction Marking and Lighting.
- AC 150/5200-18, Airport Safety Self- Inspection.
- AC 150/5200-28, Notices to Airmen (NOTAMS) for Airport Operators.
- AC 150/5200-30, Airport Winter Safety and Operations.
- AC 150/5200-31, Airport Emergency Plan.
- AC 150/5200-33, Hazardous Wildlife
- AC 150/5210-5, Painting, Marking, and Lighting of Vehicles Used on an Airport.
- AC 150/5230-4, Airport Fuel Storage, Handling, and Dispensing on Airports.
- AC 150/5300-13, Airport Design.
- AC 150/5340-1, Standards for Airport Markings.
- AC 150/5340-26, Maintenance of Airport Visual Aid Facilities.
- AC 150/5370-2, Safety on Airports during Construction.

C. References and other useful resources.

- Aircraft Rescue and Firefighting (ARFF)
www.faa.gov/airports/airportsafety/firefighting

APPENDIX D (cont) FAA Regulations and References

- First Responder Safety at a Small Aircraft or Helicopter Accident www.faa.gov/aircraft/gen_av/first_responders/
- Publications: Airports Series 150 Advisory Circular Library www.faa.gov/airports_airtraffic/airports/resources/advisory_circulars/
- Publications: Certalerts http://www.faa.gov/airports/airport_safety/certalerts

D. Department of Homeland Security/Transportation Security Administration

- National Response Framework, May 2013. www.fema.gov/media-library-data
- National Incident Management System, December 2008. www.fema.gov/pdf/emergency/nims/NIMS_core.pdf
- "Security Guidelines for General Aviation Airports" (2004).

E. National Fire Protection Association (www.nfpa.org/)

- National Fire Protection Association, NFPA 10 (Latest Edition):
Standard for Portable Fire Extinguishers.
- National Fire Protection Association, NFPA 30 (Latest Edition):
Flammable and Combustible Liquids Code.
- National Fire Protection Association, NFPA 402 (Latest Edition): *Guide for Aircraft Rescue and Fire Fighting Operations.*
- National Fire Protection Association, NFPA 407 (Latest Edition): *Standard for Aircraft Fuel Servicing.*
- National Fire Protection Association, NFPA 408 (Latest Edition): *Standard for Aircraft Hand Portable Fire Extinguishers.*
- National Fire Protection Association, NFPA 424 (Latest Edition): *Guide for Airport/Community Emergency Planning.*

APPENDIX D (cont) FAA Regulations and References

F. U.S. Department of Transportation

- *Emergency Response Guidebook* (Latest Edition).
<http://phmsa.dot.gov/hazmat/outreach-training/erg>

G. American Association of Airport Executives

- AAAE Staff (2015). *Body of Knowledge*, Modules 1-15. Alexandria, Virginia: AAAE. www.aaae.org

H. Aircraft Owners and Pilots Association

- AOPA's Airport Watch www.aopa.org/airport-watch

I. Airport Cooperative Research Program (ACRP)

The following ARCP documents are available on the agency's website: <http://www.trb.org/Publications/Publications.aspx>

- ACRP Project 4-04: Exercising Command-Level Decision Making for Critical Incidents at Airports
- ACRP Report 12: *An Airport Guide for Regional Emergency Planning for CBRNE Events*
- ACRP Report 16: ***Guidebook for Managing Small Airports***
- ACRP Synthesis 3: *General Aviation Safety and Security Practices*.

J. Magazines

- *Airport Magazine*. American Association of Airport Executives. Alexandria, Va: AAAE Service Corporation Inc. (published bi-monthly). <http://airportmagazine.net/>
- *Airport Business*. Fort Atkinson, Wisconsin: Cygnus Business Media. (published 11 times/year).

K. Miscellaneous

- International Fire Service Training Association. *Aircraft Rescue and Firefighting* (Latest Edition). Publications, Oklahoma State University.
- Smith, James Fielding (2010). "Regional Cooperation, Coordination, and Communication Among Airports During Disasters," *Transportation Research Record: Journal of the Transportation Research Board*, i.2177, 132-140.

APPENDIX D (cont) FAA Regulations and References

- Tennessee Airport Managers Guide, VOL 1, 2010, www.tn.gov/tdot/topic/aeronautic-publications
 - Maine Airport Managers Study Guide, Nov. 2007, www.maine.gov/mdot/aviation/
 - Michigan Airport Managers Study Guide, www.michigan.gov/aero
 - Wisconsin Airport Development Handbook, Jun. 2012, <http://wisconsindot.gov>
 - AIRTAP Emergency Guidebook for General Aviation Airports, www.airtap.umn.edu
 - AIRTAP Emergency Plan Templates, www.airtap.umn.edu
 - Airport Cooperative Research Program, Report 16, Guidebook for Managing Small Airports, www.trb.org
 - Airport Cooperative Research Program, Report 73, Airport to Airport Mutual Aid Programs, www.trb.org
 - Airport Cooperative Research Program, Synthesis 45, Model Mutual Aid Agreements for Airports, www.trb.org
 - FAA Bird Strike Reporting, wildlife.faa.gov
 - USDA Wildlife Services, www.aphis.usda.gov/.
- L. Pennsylvania Bureau of Aviation, www.penndot.gov.**

APPENDIX E

NOTAM Contractions

Notices to Airmen Contractions

This list contains most of the commonly used contractions currently in use in Notices to Airmen (NOTAMS)

A

ABN- Airport Beacon
ABV- Above
ACC- Area Control Center (ARTCC)
ACCUM- Accumulate
ACFT- Aircraft
ACR- Air Carrier
ACT- Active
ADJ- Adjacent
ADZD- Advised
AFD- Airport Facility Directory
AGL- Above ground level
ALS- Approach Light System
ALT- Altitude
ALTM- Altimeter
ALTN- Alternate
ALTNLY- Alternately
ALSTG- Altimeter Setting
AMDT- Amendment
AMGR- Airport Manager
AMOS- Automatic Meteorological Observing System
AP- Airport
APCH- Approach
AP LGT- Airport Lights
APP- Approach control
ARFF- Aircraft Rescue & Fire Fighting
ARR- Arrive, arrival
ASOS- Automated Surface Observing System
ASPH- Asphalt

ATC- Air Traffic Control
ATCSCC- Air Traffic Control System Command Center
ATIS- Automatic Terminal Information Service
AUTH- Authority
AUTOB- Automatic Weather Reporting System
AVBL- Available
AWOS- Automatic Weather Observing/Reporting System
AWY- Airway
AZM- Azimuth

B

BA- FAIR Braking action fair
BA- NIL Braking action nil
BA- POOR Braking action poor
BC- Back Course
BCN- Beacon
BERM- Snowbank(s) Containing Earth/Gravel

BLW- Below
BND- Bound
BRG- Bearing
BYD- Beyond

C

CAAS- Class A Airspace
CAT- Category
CBAS- Class B Airspace
CBSA- Class B Surface Area

CCAS- Class C Airspace
CCLKWS- Counterclockwise
CCSA- Class C Surface Area
CD- Clearance Delivery
CDAS- Class D Airspace
CDSA- Class D Surface Area
CEAS- Class E Airspace
CESA- Class E Surface Area
CFR- Code of Federal Regulations
CGAS- Class G Airspace
CHG- Change
CIG- Ceiling
CK- Check
CL- Centerline
CLKWS- Clockwise
CLR- Clearance, clear(s), cleared to
CLSD- Closed
CMB- Climb
CMSND- Commissioned
CNL- Cancel
COM- Communications
CONC- Concrete
CPD- Coupled
CRS- Course
CTC- Contact
CTL- Control

D

DALGT- Daylight
DCMSND- Decommissioned
DCT- Direct

APPENDIX E (Cont) NOTAM Contractions

DEGS- Degrees
DEP-
Depart/Departure
DEPPROC-
Departure
procedures
DH- Decision Height
DISABLD- Disabled
DIST- Distance
DLA- Delay or
delayed
DLT- Delete
DLY- Daily
DME- Distance
Measuring
Equipment
DMSTN-
Demonstration
DP- Dew Point
Temperature
DRFT- Snowbank(s)
Caused By Wind
Action
DSPLCD- Displaced

E
E- East
EB- Eastbound
EFAS- En Route
Flight Advisory
Service
ELEV- Elevation
ENG- Engine
ENRT- En route
ENTR- Entire
EXC- Except

F
FAC- Facility or
facilities
FAF- Final Approach
fix
FAN MKR- Fan
Marker
FDC- Flight Data
Center

FI/T- Flight
inspection
temporary
FI/P- Flight
inspection
permanent
FM- From
FREQ- Frequency
FN-A Final approach
FPM- Feet per
minute
FREQ- Frequency
FRH- Fly Runway
Heading
FRI- Friday
FRZN- Frozen
FSS-
Automated/Flight
Service Station
FT- Foot, feet

G
GC- Ground Control
GCA- Ground
Control Approach
GOVT- Government
GP- Glide Path
GPS- Global
Positioning System
GRVL- Gravel

H
HAA- Height Above
Airport
HAT- Height Above
Touchdown
HDG- Heading
HEL- Helicopter
HELI- Heliport
HIRL- High Intensity
Runway Lights
HIWAS- Hazardous
Inflight Weather
Advisory Service
HLDG- Holding
HOL- Holiday
HP- Holding Pattern
HR- Hour

I
IAF- Initial approach
fix
IAP-Instrument
Approach Procedure
INBD- Inbound
ID- Identification
IDENT- Identify
IF- Intermediate fix
ILS- Instrument
Landing System
IM- Inner Marker
IMC- Instrument
Meteorological
Conditions
IN- Inch/Inches
INDEFly-
Indefinitely
INFO- Information
INOP- Inoperative
INSTR- Instrument
INT- Intersection
INTL- International
INTST- Intensity
IR- Ice On
Runway(s)

K
KT- Knots

L
L- Left
LAA- Local Airport
Advisory
LAT- Latitude
LAWRS- Limited
Aviation Weather
Reporting Station
LB- Pound/Pounds
LC- Local Control
LOC-
Local/Locally/Locatio
n
LCTD- Located
LDA- Localizer Type
Directional Aid
LGT- Light or
lighting
LGTD- Lighted

APPENDIX E (cont) NOTAM Contractions

LIRL- Low Intensity
Runway Lights
LLWAS- Low Level
Wind Shear Alert
System

LM- Compass
Locator at ILS
Middle Marker
LDG- Landing
LLZ- Localizer
LO- Compass
Locator at ILS Outer
Marker
LONG- Longitude
LRN- Loran
LSR- Loose Snow on
Runway(s)
LT- Left Turn

M

MAG- Magnetic
MAINT- Maintain,
maintenance
MALS- Medium
Intensity Approach
Light System
MALSF- Medium
Intensity Approach
Light System with
Sequenced Flashers
MALSR- Medium
Intensity Approach
Light System with
Runway Alignment
Indicator Lights
MAPT- Missed
Approach Point
MCA- Minimum
Crossing Altitude
MDA- Minimum
Descent Altitude
MEA- Minimum
Enroute Altitude
MED- Medium
MIN- Minute
MIRL- Medium
Intensity Runway
Lights

MLS- Microwave
Landing System
MM- Middle Marker
MNM- Minimum
MNT-
Monitor/Monitoring/
Monitored
MOC- Minimum
Obstruction
Clearance
MON- Monday
MRA- Minimum
reception altitude
MSA- Minimum Safe
Altitude/Minimum
Sector Altitude
MSAW- Minimum
Safe Altitude
Warning
MSG- Message
MSL- Mean Sea
Level
MU- meters
MUD- Mud
MUNI- Municipal

N

N- North
NA- Not Authorized
NAV- Navigation
NAVAID –
Navigational Aid
NB- Northbound
NDB- Nondirectional
Radio Beacon
NE- Northeast
NGT- Night
NM- Nautical Mile(s)
NMR- Nautical Mile
Radius
NONSTD-
Nonstandard
NOPT- No Procedure
Turn Required
NR- Number
NTAP- Notice To
Airmen Publication
NW- Northwest

O

OBSC- Obscured
OBST- Obstruction
OM- Outer Marker
OPR- Operate
OPS- Operation
ORIG- Original
OTS- Out of Service
OVR- Over

P

PAEW- Personnel
and Equipment
Working
PAPI- Precision
Approach Path
Indicator
PAR- Precision
Approach Radar
PARL- Parallel
PAT- Pattern
PAX- Passenger
PCL- Pilot Controlled
Lighting
PERM-
Permanent/Permane
ntly
PJE- Parachute
jumping exercise
PLA- Practice Low
Approach
PLW- Plow/Plowed
PN- Prior Notice
Required
PPR- Prior
Permission Required
PREV- Previous
PRN- Pseudo
Random Noise
PROC- Procedure
PROP- Propeller
PSR- Packed Snow
on Runway(s)
PTCHY- Patchy
PTN- Procedure Turn
PVT- Private

APPENDIX E (cont) NOTAM Contractions

R

RAIL- Runway Alignment Indicator Lights
RAMOS- Remote Automatic Meteorological Observing System
RCAG- Remote Communication Air/Ground Facility
RCL- Runway Centerline
RCLL- Runway Centerline Light System
RCO- Remote Communication Outlet
REC- Receive/Receiver
RELCTD- Relocated
REIL- Runway End Identifier Lights
REP- Report
RLLS- Runway Lead_in Lights System
RMNDR- Remainder
RNAV- Area Navigation
RPLC- Replace
RQRD- Required
RRL- Runway Remaining Lights
RSR- En Route Surveillance Radar
RSVN- Reservation
RT- Right Turn
RTE- Route
RTR- Remote Transmitter/Rcvr
RTS- Return to Service
RUF- Rough

RVR- Runway Visual Range
RVRM- Runway Visual Range Midpoint
RVRR- Runway Visual Range Rollout
RVRT- Runway Visual Range Touchdown
RWY- Runway
S
S- South
SA- Sand, sanded
SAT- Saturday
SAWR- Supplementary Aviation Weather Reporting Station
SB- Southbound
SDF Simplified Directional Facility
SE- Southeast
SFL- Sequence Flashing Lights
SID- Standard Instrument Departure
SIMUL- Simultaneous
SIR- Packed or Compacted Snow and Ice on Runway(s)
SKED- Scheduled
SLR- Slush on Runway(s)
SM- Statute Miles
SN- Snow
SNBNK- Snowbank(s) Caused by Plowing
SINGL- Single
SPD- Speed
SSALF- Simplified Short Approach Lighting System

with Sequenced Flashers
SSALR- Simplified Short Approach Lighting System with Runway Alignment Indicator Lights
SSALS- Simplified Short Approach Lighting System
SSR- Secondary Surveillance Radar
STA- Straight-in Approach
STAR- Standard Terminal Arrival
SUN- Sunday
SVC- Service
SW- Southwest
SWEPT- Swept or Broom/Broomed
T
T- Temperature
TAA- Terminal Arrival Area
TACAN- Tactical Air Navigational Aid
TAR- Terminal area surveillance radar
TDZ- Touchdown Zone
TDZ LG- Touchdown zone lights
TEMPO- Temporary
TFC- Traffic
TFR- Temporary Flight Restriction
TGL- Touch and Go Landings
THN- Thin
THR- Threshold
THRU- Through
THU- Thursday
TIL- Until
TKOF- Takeoff

APPENDIX E (cont) NOTAM Contractions

TM- Traffic Management
TMPA- Traffic Management Program Alert
TRML- Terminal
TRNG- Training
TRSN- Transition
TSNT- Transient
TUE- Tuesday
TWR- Tower
TWY- Taxiway

U

UFN- Until further notice
UNAVBL- Unavailable
UNLGTD- Unlighted
UNMKD- Unmarked
UNMNT- Unmonitored
UNREL- Unreliable
UNUSBL- Unusable

V

VASI- Visual Approach Slope Indicator
VDP- Visual Descent Point
VGSI- Visual Glide Slope Indicator
VIA- By Way Of
VICE- Instead/Versus
VIS- Visibility
VMC- Visual Meteorological Conditions
VOL- Volume
VOR VHF-Omni-Directional Radio Range
VORTAC- VOR and TACAN (co-located)

W

W- West
WB- Westbound
WED- Wednesday
WEF- With effect from or effective from
WI- Within
WIE- With immediate effect or effective immediately
WKDAYS- Monday through Friday
WKEND- Saturday and Sunday
WND- Wind
WPT- Waypoint
WSR- Wet Snow on Runway(s)
WTR- Water on Runway(s)
WX- Weather

X

Y

YD – Yards
URAUZ – You are authorized
YMSG – Your message

Z

ZM – Zone marker
ZI – Zone of interior

APPENDIX F

Sample Airport Inspection Checklist

This Appendix offers a typical inspection checklist for reference. Airport managers should develop a checklist inspecting the facilities and equipment unique to their airport. A sketch of the airport can also be used to help clarify the location of problems found during the inspection. An airport checklist template can be found on the Bureau's website www.penndot.gov. The FAA's Self Inspection Checklist is found in AC 150/5200-18.

A. AIRPORT SAFETY SELF-INSPECTION CHECKLIST

DATE: _____

Day Inspector/Time: _____

Night Inspector/Time: _____

FACILITY	ITEMS/CONDITIONS	SAT	UNSAT	N/A	COMMENTS
1. Office/ Pilots Lounge	1a. Airport License posted				
	1b. Insurance Disclosure posted for AC Rental				
	1c. Traffic Pattern posted with Frequencies				
	1d. Noise Sensitive Areas posted				
	1e. Pilot Bulletin Board up to date				
	1f. Emergency Numbers posted inside and outside				
	1g. First Aid Kit Available				
	1h. Fire Extinguisher/Charged				

FACILITY	ITEMS/CONDITIONS	SAT	UNSAT	N/A	COMMENTS
2. Safety / Security	2a. Airport FOD Check				
	2b. Wildlife Hazards Evident				
	2c. Runway/Taxiway Access (Fence, Gates. Restricted Signs Posted)				
	2d. Support Equipment Operational (Fire/Snow)				
3. Airport Markings	3a. General Condition/ Visible/Faded				
	3b. Ramp/Refuel Markings				
	3c. Taxiway/Hold Markings				
	3d. Runway Markings				
	3e. Displace Threshold				
	3f. Glass Bead Condition				
4. Runway/Taxiway Pavement or Turf	4a. Runway edge level with terrain - less than 3" drop				
	4b. Pavement Condition - Holes/Cracks/ Spalling				
	4c. FOD Check: Gravel/Sand/Debris				
	4d. Excessive Rubber Deposits				
	4e. Large Ruts / Humps / Uneven Soil / Erosion				

FACILITY	ITEMS/CONDITIONS	SAT	UNSAT	N/A	COMMENTS
5. Runway / Taxiway Lighting	5a. Pilot Controlled Lighting Operational				
	5b. Taxiway Lighting/Bulbs OTS / Broken / Missing				
	5c. Runway Lighting/Bulbs OTS / Broken/Missing / Correct Color / Orientation				
	5d. Supports upright / Proper Height / Frangible Bases Intact				
6. Navigational Aids	6a. Rotating Beacon Operational /Lighted				
	6b. Wind Indicator / Condition / Lighted				
	6c. REILs/VGSI systems Operational/ Aligned				
	6d. Frangible Bases				
7. Airfield Obstructions	7a. Runway Clear / Primary Surface Obstructions				
	7b. Approach Surface Obstructions / Tree Growth				
	7c. Temporary Obstructions Marked, NOTAM'd				
	7d. Obstruction Lights Operational				

FACILITY	ITEMS/CONDITIONS	SAT	UNSAT	N/A	COMMENTS
8. Fuel Facility/ Fuel	8a. Fuel Tank Labels and Markings Visible				
	8b. Bonding and Grounding Cables Operational/Condition				
	8c. Fuel Nozzle Capped or Secured				
	8d. Hose Condition, if cracked and worn – replace				
	8e. Pipe Bollards or structure to protect facility from collision				
	8f. 'BC' Fire Extinguishers, one located at Facility, one at Emergency Shutoff				
	8g. Two Fire Extinguishers per Fuel Truck, one each side				
	8h. Emergency Shutoff visibly labeled and tested				
	8i. Self Service Instructions posted with Emergency Contacts (if applicable)				
	8j. Fuel Log and Water Checks Documented				
	8k. Current Weights and Measurement Placard				
	8l. Spill Kit Available				
	8m. Fuel Trucks/buildings proper separation				

FACILITY	ITEMS/CONDITIONS	SAT	UNSAT	N/A	COMMENTS
9. Rain / Snow / Ice	9a. Surface Conditions				
	9b. No Ponding / Proper Drainage				
	9c. Snowbank Clearances				
	9d. Lights, Markings, Signs Visible				
	9e. NAVAIDs				
	9f. Emergency Access				
	9g. Material Stockpile				
10. Construction Equipment	10a. Barricades/Hazard Lighting				
	10b. Equipment Parking				
	10c. Material Stockpiles clear				
	10d. Additional FOD checks				
	10e. Vehicles properly marked / lighted				
11. NOTAM	11a. NOTAMS Posted / current and accurate				
	11b. NOTAM expiration checked				
	11c. NOTAMs revised / removed as necessary				

Remarks: _____

Important Phone Numbers

Fire/Police Departments: **911**

Airport Manager: _____

Cell: _____

Home: _____

Airport Staff: _____

Cell: _____

Home: _____

Airport Staff: _____

Cell: _____

Home: _____

FBO Manager: _____

Cell: _____

Home: _____

A/P Authority: _____

Cell: _____

Home: _____

Fuel Provider: _____

NOTAM: 1-877-487-6867

FAA Flight Standards District Office:

PA Bureau of Aviation: 717-705-1200

Responding to an Aircraft Accident

How to Support the NTSB

A Guide for Police and Public Safety Personnel

UPON COMPLETION OF LIFE SAFETY ACTIVITIES

SECURE SCENE & PRESERVE EVIDENCE

C O N T A C T

NTSB and/or FAA Regional Comm Center

NTSB MAIN NUMBER • 202-314-6000

8:30 AM - 5:00 PM • Monday - Friday

NTSB Comm Center #

FAA Regional Comm Center # _____

Establish Inner and Outer Perimeter

- ▣ • Protect property
- ▣ • Prevent the disturbance of wreckage and debris except to preserve life, rescue the injured, or protect the wreckage from further damage
- ▣ • Protect and preserve ground scars and marks made by the aircraft
- ▣ • Admit Public Safety Personnel access to the wreckage to the extent necessary to preserve life, and/or stabilize HAZMAT
- ▣ • Maintain a record of personnel who enter the accident site

Prior to NTSB Arrival on Scene, Restrict Access only to Authorized Personnel

- ▣ • FAA
- ▣ • Police/Fire/EMS
- ▣ • Medical Examiner/Coroner
- ▣ • Other Emergency Services Agencies

After NTSB arrival on scene, no access without NTSB authorization

BIOHAZARD/HAZMAT

- ▣ • Potentially dangerous materials that might be present may include but are not limited to: Chemicals-Explosives-Biological-Radioactive materials, fuel, pressure vessels, compressed air, hydraulics, batteries, accumulators, igniters, oxygen systems, oxygen bottles, fire extinguishers, evacuation chutes, flares, composite materials, ballistic parachute systems, tires

SPC-04-02