



DIVISION OF **AVIATION**

Tactical Guidelines for Airport Operations During Disaster Response

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PREPARED BY:

fountainworks
FACILITATION • MANAGEMENT CONSULTING

Executive Summary

Hurricane Helene underscored the vital role general aviation airports play in supporting North Carolina statewide disaster response efforts. In the aftermath, the North Carolina Department of Transportation (NCDOT) Division of Aviation conducted an After-Action Report (AAR) to examine how general aviation airports contributed to response operations and to identify lessons learned.

This guidebook distills insights from the AAR into clear, tactical guidelines for general aviation airports to enhance preparedness, response, and recovery during future disasters. It includes best practices, operational checklists, and coordination strategies designed specifically for NC airport personnel and emergency management partners.

Importantly, this guidebook is a **living document**. As disaster response protocols evolve and new lessons emerge, NCDOT Aviation will continue to revise and expand this resource. Users are encouraged to refer to it regularly and incorporate updates into their planning and training efforts. It is both a reference and a readiness tool to support safe, coordinated, and effective airport operations in times of crisis.

The guidebook is organized into the following sections:

- [Key Guidelines for Airport Operations](#)
- [Airport Infrastructure Tips and Guidelines](#)
- [Communication Tips and Guidelines](#)
- [Staffing Support Tips and Guidelines](#)
- [Resources Tips and Guidelines](#)
- [Appendix](#)
 - [Identify Your Risk](#)
 - [Potential Equipment and Resource Sources](#)



Introduction

The following sections are a tactical guide meant to aid airports in an emergency or disaster event. Tactical guides focus on managing personnel, equipment, and resources that play a direct role in an incident response. The tips and guidelines included are not an exhaustive list of all appropriate measures to take in an emergency. These sections are strictly a guide and a collection of ideas and advice, *not a sample emergency operation plan*. These sections do not establish requirements, and the recommendations herein may be used, adapted, or disregarded as deemed appropriate.

These tactical guidelines are divided into the following sections:

Key Guidelines for Airport Operations

This section includes the general guidelines airport leadership should use to guide decision-making during a disaster as well as a brief list of resources airports cited as particularly helpful.

How to Read and Use Operational Guidelines

This section explains how the rest of the guidebook is structured and how to use the information provided.

Airport Infrastructure

This section pertains to tips and guidelines to ensure safe operation relative to airport infrastructure during an emergency.

Communication

Communication tips and guidelines focus on supporting an airport's ability to communicate and share information in an emergency in real time, including airport staff, non-airport organizations operating at an airport, different levels and divisions of government, and their local communities.

Staffing Support

Staffing support provides information on how to think about staffing needs and ensure an airport has the necessary human capacity to operate during an emergency.

Resources

This section includes information about resources and equipment that may be needed during an emergency event.

When a disaster is forecasted, imminent, or has occurred, your airport can implement the actions in the following sections for emergency response and support.



Key Guidelines for Airport Operations

Listed below are general guidelines and key considerations that airport managers identified as especially helpful across a range of emergency situations. These principles were highlighted as critical for supporting effective decision-making during emergency response operations.

→ Prioritize safety and risk mitigation.

- Continuously communicate that emergency measures are being deployed to increase safety and avoid accidents.

→ As much as possible, prioritize operating airports as airports.

- Focus on and prioritize *critical* airport functions and operations.
- Limit adding additional roles and functions to airports (i.e., donation hubs).

→ Maintain open lines of communication.

- Regularly communicate challenges, successes, and situation updates.
- Avoid using main communication channels for non-emergency issues and operations.

→ Anticipate and plan for increased air and foot traffic.

- Act early to mitigate risk and future issues: establish a PPR, contact your fuel company, give nearby airports and NCDOT Aviation status updates.
 - Identify a dedicated line for the PPR that is not the airport's main number.
- Staff up and/or add redundancies to staffing positions.
 - Take advantage of supplemental assistance from other organizations.
- Set up an emergency PO for efficient fueling operations.
- Consider operational deconfliction plans for military and civilian craft.
- **Be aware:** *Local air traffic patterns have a higher potential for mishaps in these conditions due to increased congestion.*

General Preparedness Resource List

Airport managers listed the resources below as particularly helpful across a range of emergency situations.

- | | |
|--|---|
| • Radios and headsets | • Inventory of current airport assets |
| • Generators (and fuel for several days) | • Emergency lighting (i.e., portable lights and flashlights) |
| • Battery banks and/or portable solar chargers | • Satellite phone and/or internet kit and subscription |
| • First aid kits | • List of contact information for local emergency and community resources (i.e., food banks, Red Cross, etc.) |
| • Cots and sleeping accommodations | • Safety vests and other personal protection equipment |
| • Chainsaws and other debris removal tools | • Portable digital displays (similar to portable digital message signs deployed during highway construction projects) |
| • Traffic cones and other safety barriers | |
| • Lit marshaling wands | |



How to Read and Use Operational Guidelines

During emergency situations, airports may encounter sudden and unplanned operational challenges that require adapting quickly. Airport personnel can use the information in the following sections to better anticipate, prepare, and respond to emergencies.

The sections that follow are organized by airport operational activities:

- Airport Infrastructure
- Communications
- Staffing Support
- Resources

Guidelines and tips are marked with a blue arrow (➡).

- Where appropriate, relevant considerations, practical tips for execution, and other information are listed below guidelines.
- These additional considerations may help you tailor these guidelines to the unique emergency situation and the nuances of your airport.

Some sections also highlight potential situations that were identified during the AAR as common scenarios that may arise and the potential effects those situations can have on airport operations.

- These situations are displayed in red tables.
- Following those situations are the specific guidelines and practical steps airports can take to respond effectively.

Being aware of these possibilities in advance—and knowing how to address them—can help airport personnel maintain safety, manage resources, and support coordinated emergency response.



Airport Infrastructure Guidelines

The following guidelines pertain to managing and maintaining airport infrastructure during disaster response. These guidelines are meant to prioritize safety, reduce disruption, and mitigate risk.

Situation:	Increased air traffic (present or anticipated).		
Possible Effects:	Limited ramp & tie down space	Increased fuel demand	Increased foot traffic

→ Institute a Prior Permission Required (PPR).

- A PPR vets and meters operations and flights and addresses safety concerns.
- Once instituted, FEMA can provide contractors to manage the PPR. This supplemental staff is also airport-trained and can relieve regular staff to allow for breaks while maintaining safe operations.
- Some may view PPRs as “turning down help.” Communicate that PPRs are used as safety measures that help airports function and maintain a manageable flow of safe operations during an emergency.
- If a nearby airport institutes a PPR and your airport does not have a PPR in place, you will likely experience an immediate increase in traffic.
- If you institute a PPR, inform nearby airports so they can be aware and prepare for a potential increase in traffic.

→ Separate ramp into zones for specific aircraft sizes and types.

- Based on the available ramp space at your airport:
 - Designate a specific area for unloading and loading supplies.
 - Create parking spots for different-sized aircraft in this area and assign time limits for each respective parking spot. (i.e., 20-30 minutes for small single-engine aircraft and 30-45 for larger twin engine aircraft).
 - This will aid in determining how many aircraft per hour your ramp can accept for PPR assignments.
- Consider designating a separate aircraft refueling area to clear donation loading and unloading parking spots.
- To preserve supply, ask relief aircraft to purchase the minimum amount of fuel necessary to fly to an airport outside of the affected area. The airport outside of the affected area can address their main fueling needs.
- Designate an area for helicopters separate from fixed wing traffic to reduce the chances of injury from downwash.

→ Communicate with NCDOT Aviation.

- Explain your situation with the division and brainstorm the needed tools to manage increased operations.
- NCDOT Aviation can help implement NOTAMs and distribution of information to a broad audience through social media and other channels.



Situation:	Large non-aviation operation occurring at an airport. (Ex.: supply sorting and distribution hub)		
Possible Effects:	Speedy movement prioritized over safe movement	Increased traffic in areas surrounding the airport	Lack of restrooms
	Supplies requiring specific equipment (ex., forklifts, refrigeration for food & medicine)	Unauthorized vehicles & people on the ramp	Limited hangar space

➔ **Clearly mark areas for non-airport personnel to operate within.**

➔ **If available and necessary, station someone at entry and exit points to the airfield/ramp.**

- Ask local emergency services to send someone to supervise the gate. If local law enforcement are unable to provide personnel, request they park a vehicle on the property to encourage orderly behavior.

➔ **Put someone in charge of safe movement.**

➔ **Give organizations operating at your airport morning huddle-up safety briefings and nightly updates.**

- Sit reps should include concerns and challenges.

Situation:	Disaster involves distribution of supplies and/or donations.		
Possible Effects:	Hangar used for temporary storage space	Displaced airport tenants	Increased foot traffic

➔ **Early in the event, communicate where to bring donations.**

- As much as possible, limit operating the airport as a donation or distribution hub.
- Encourage a different location for donation and distribution.
- Coordinate with local groups (i.e., churches, Red Cross, other community-based organizations) to move donations and supplies off-property to a distribution center.



Communication Guidelines

During emergencies, clear and concise communication is vital. Effective communication in an emergency requires communicating risks and benefits to stakeholders and the public. Use the guidelines below to communicate effectively in emergency situations and maintain safe operations.

→ **To the best of your ability, ensure a stable line of communication.**

→ **Prioritize communicating key information.**

- Communicate necessary information first, especially when phone and internet service is intermittent.
- Reduce pleasantries.

→ **Clearly communicate the command structure and post a chart illustrating it.**

- Once the response begins, there should be no confusion about who is in charge and who reports to whom.

→ **Clearly communicate staff roles and responsibilities.**

- Give daily updates on staff roles.
- Post daily roles in an easily visible location.

→ **Reserve a phone line specifically for operations and coordination.**

- Avoid sharing this number with a wide audience.

→ **Establish separate ground and flight frequencies.**

→ **Give daily situation reports to key partners.**

- Include NCDOT Aviation, airport tenants, staff, and volunteers.
- Prioritize sharing information that ensures safe and proper operations.

→ **Identify a local public information officer or communication representative for external requests, including media and elected officials.**

→ **Use NOTAMs to communicate abnormal airport status.**

- *The FAA and NCDOT Aviation can assist in drafting NOTAMs.*
- NOTAMs need to include PPR hours without confusing the user about the NOTAM hours.



Staffing Support Guidelines

The guidelines below aim to assist airports in managing personnel to effectively and safely respond to emergencies and continue operations.

→ Brief staff daily on roles and responsibilities.

- Identify staff to fill the following roles:
 - Air Boss
 - Sufficient Aircraft Marshalls
 - Communications/Public Information Officer
 - Trusted Airport Manager Relief
 - Airport Entry Gate Attendant
 - Linemen and Fueling Personnel
 - Crowd Control
 - Donation Sorting
 - Phone Line Attendant
- Prioritize roles and responsibilities that ensure safe and proper operations.

→ Communicate staff concerns and issues with NCDOT Aviation and ask for support in implementing solutions.

→ If necessary, ask local law enforcement to provide crowd and/or gate control.

- If local law enforcement is unable to provide personnel, request they park a vehicle on the property to encourage orderly behavior.
- Request this support as much in advance as possible.

→ Ask Flight Standards District Office (FSDO) to oversee safe operations.

→ If your airport does not have Airport Rescue and Fire Fighting (ARFF) services, ask local emergency services to provide emergency vehicles.

→ Create a call center staffed with a liaison officer for each group at the airport.

- Assign points of contact for airport customers and organizations.

→ Create badges for temporary personnel, including volunteers.

→ Ensure enough qualified staff to handle critical operations like fueling and marshalling.

Situation:

Increased congestion at uncontrolled airports.

→ Identify and designate a manager for air traffic.

- If a storm is forecasted to affect your area, *designate this person prior to the storm's arrival.*

→ If the situation is ongoing, consider bringing in mobile air traffic control.

- Temporary Control Towers (TCTs) make the situation on the ground more manageable. This service is provided primarily by the military.
- If available, implement TCTs as early into an event as possible.



Resource Guidelines

Effective emergency response depends on the timely and appropriate use of available resources. This section outlines guidelines for requesting, managing, and deploying resources to support operational continuity and ensure a coordinated response.

→ When placing fuel orders, order the maximum amount of fuel possible and, if needed, modify the order on the day of delivery.

- This will ensure airport tanks are filled completely with each delivery.
- Remember: Airports can order any amount of fuel from their provider.
- Consider coordinating and partnering with a sister airport for re-supply.
- Prioritize maintaining high fuel reserves.

Situation: A storm is forecast to affect your area.

→ Contact your fuel company and ask them to provide a full auxiliary fuel truck.

- A mobile fuel truck will increase an airport's fuel capacity, which will be important if the storm interrupts the supply chain.
- A fuel truck can act as a **Forward Arming and Refueling Point (FARP)** and provide flexibility as operations may need to adjust to accommodate increased traffic.
 - A fuel truck allows for fueling without having to tow planes to stationary tanks.

Situation: Airport needs specific resources.

→ Communicate with local city or county departments to see if they can supply the needed resources.

- Consider asking the following local departments if they have the needed supplies:
 - County or City Emergency Management
 - City Police, County Sheriff, Highway Patrol
 - Public Works
 - Fire Department
 - Animal Control
 - Public Information Officer
 - Health Department

→ If local or county units cannot supply you, contact the Division of Aviation and inform them of your needs and why you need them.

- Telling the Division of Aviation *why you need something* or *what you intend to use it for* may help them find alternative resources if what you are requesting cannot be provided.

Situation: FuelBridge is not operational.

→ Take additional measures to prevent misfuelling.

- Consider the following potential solutions:
 1. When a plane arrives, ask the pilot for the tail number and fuel type. Write both on a sticky note and put it on the windshield. When a plane gets to the fueling station, the fueller will check the sticky note against the tail number and fuel accordingly.
 2. Designate different waiting areas for specific fuel types. Tell planes which area to wait in according to the fuel type they require. Fueller should confirm the fuel type with the pilot before pumping.



Appendix

The response capability of an airport depends on both internal and external partnerships and how collaborative those relationships are. Understanding your airport's risk and preparedness is a vital component of emergency responses and effectively collaborating with partners. The Identify Your Risk assessment tool below is a first step in determining how prepared your airport is for an emergency. Following the assessment tool is a list of potential community partners to reach out to secure various resources and tools your airport may need to effectively respond in an emergency.

Identify Your Risk

This preliminary assessment tool can be used to help understand your airport's risks in an emergency situation. This is not an exhaustive tool and should only be used as a first step in risk mitigation. As you conduct the risk assessment, look for vulnerabilities or weaknesses that could make your airport more susceptible to hazards and less able to respond.

- ➔ **Is your airport equipped with ARFF?**
- ➔ **Do you have a fuel farm?**
 - Can your fuel farm be safely connected to a generator?
 - Do you have a mobile fuel truck? Or auxiliary tank?
- ➔ **Do you have enough generators to power your fuel farm, fuel pump, runway lights, terminal building, and communication systems?**
 - Can your fuel farm be safely connected to a generator?
 - Can your fuel pump be safely connected to a generator?
 - Can your fixed-base operator be safely connected to a generator?
 - Can your runway lights be safely connected to a generator?
 - Can your terminal building be safely connected to a generator?
 - Can your communication systems be safely connected to a generator?
- ➔ **Do you have a sufficient number of radios for staff and operations?**
 - Are staff members trained on operating radios?
 - Can radios operate for a full day of operations without needing to be charged?
 - Do you have access to a satellite phone in the event traditional lines are out of service?
 - Do you have access to a VIPER radio capable of communicating with your local 911 Communications Center in case land and mobile phone lines are down and you need assistance?
 - Do you have enough backup batteries in the event of long-term power outage?
- ➔ **How many people are trained to respond to emergencies at the airport?**
 - How many are familiar with current airport layout and operations?
 - Do you have enough personnel to adequately staff key roles during different shifts?
 - Is there an updated 24-hour contact list readily available?
 - Is there a designated point of contact and authority if the airport manager is not available?
- ➔ **Are staff certified in all processes and operations of all equipment?**
 - Are staff cross-trained in airport operations?



Potential Equipment and Resource Sources

If a situation arises where your airport lacks specific equipment and resources that are needed or would be beneficial, reach out to local organizations and ask if they can temporarily supply them. Contact your local Emergency Management to discuss placing a resource request. *Additionally, be sure to communicate all equipment needs with the Division of Aviation.*

- ➔ When making a request, it is recommended to **include the reason for the request**. Doing so facilitates implementing better solutions or finding alternatives when the preferred solution is not possible.

The table below lists equipment commonly needed in emergencies and organizations that may be able to share for the emergency response.

Equipment	Potential Source
Trailer, Earth-moving equipment	Landscaping companies, Local NCDOT Division
Golfcarts, Gators, UTVs	Local Parks and Rec or Facilities Management Departments, schools, landscaping companies, home supply stores, golf courses
Refrigeration	Restaurants, home supply stores, food or drink distributors, grocery stores
Generators	City or County emergency management, equipment rental companies
Lights	Public Works, home supply stores, Local NCDOT Division
Potable water	City or County emergency management
Bulk water	City or County emergency management, Public Works, Fire Department
Pop-up tents and fold-up tables	Home supply stores, event companies, Fire Department
Portable Toilets	Public Works, event companies



NCDOT Staff Index

The contact information below is current as of May 28, 2025.

NCDOT Aviation

Contact	Title	E-mail	Phone Number
Nick Short	Aviation Director	nshort2@ncdot.gov	919-609-8357
Jason Schronce	Deputy Director of Programs and Planning	jbschronce@ncdot.gov	919-306-1135
Rachel Bingham	Deputy Director of Airport Development	rsbingham@ncdot.gov	919-814-0570
Thad Howell	Manager of Aviation Services	jthowell1@ncdot.gov	919-814-0558
Bridgette Barthe	Communications Liaison	bmbarthe@ncdot.gov	919-707-2666
Mortaza Habibi	Airport Project Manager (Commercial Service)	gmhabibi@ncdot.gov	919-814-0553
Raj Kondapalli	Western Region Airport Project Manager Lead	rkondapalli@ncdot.gov	919-814-0559
Mostafa Moradi	Airport Project Manager (Southwest)	mmoradi@ncdot.gov	919-675-6186
Thomas Mann	Eastern Region Airport Project Manager Lead	tlmann@ncdot.gov	919-814-0554
Robin Peele	Airport Project Manager (Northeast)	rdpeele@ncdot.gov	919-814-0565

North Carolina Emergency Management

Contact	Title	E-mail	Phone Number
Wesley Powell	Emergency Services Coordinator	Wes.powell@ncdps.gov	919-368-9327
Rachel McGrath	Critical Infrastructure Specialist	Rachel.mcgrath@ncdps.gov	919-825-2333
Contact	Location	Phone Number	
Main Office	1636 Gold Star Drive, Raleigh NC 27607		
Main Switchboard		919-825-2500	
24-Hour Watch Center		919-733-3300 or 800-858-0368	
Eastern Branch Office	3802B Highway 58 North, Kinston, NC 28502	252-520-4923	
Central Branch Office	780 Plantation Drive, Burlington, NC 27215	336-329-1302	
Western Branch Office	2345 Morganton Blvd., SW, Lenoir, NC 28645	828-466-5555	