

**GENERAC<sup>®</sup>**

# **Business Hurricane Preparedness Guide**



# Table of Contents

Protect Your Business With Generac.....	2
Keep Your Generator Ready.....	3
Common Causes of Generator Failure.....	3
Essential Proactive Maintenance.....	4
Generator Maintenance Planning.....	5
The Cost of Outages.....	6
Selecting the Right Backup Power.....	7
After the Storm.....	8
2024 Hurricane Outlook.....	9
Is Your Business in a High-Risk Area?.....	9
Planning and Preparation.....	10
The Generac Advantage.....	11
Key Terminology.....	12
Hurricane Preparedness Checklist.....	13
Support and Emergency Contacts.....	14



# Protect Your Business With Generac

While hurricanes and tropical storms are inevitable, being without power is not. With early planning, you can help ensure your business is prepared to maintain operations when severe weather strikes.

As a leader in backup power solutions for 65 years, Generac has pioneered innovation in the industry. We've proudly helped address the specifications, configuration, installation and maintenance of generators for businesses of all sizes across a range of segments to be prepared for unexpected outages – even before they occur.

## Stay On Top of Power Outages

With Generac's Power Outage Central, you'll get a state-by-state overview of current outage activity.

For the most up-to-date information, visit <https://www.generac.com/outages>.



# Keep Your Generator Ready. And Resilient.

Generator reliability in the face of extreme weather events is pivotal to any business continuity strategy. In the commercial and industrial sector, a well-maintained generator is a critical safeguard against the significant risks that power outages pose.

Remain operational without interruption with consistent inspections and maintenance.

## Common Causes of Generator Failure

Breakdowns can cause significant damage to the equipment itself, leading to costly repairs and operational downtime.



### Component Wear and Tear

Constant operation or frequent cycling can wear out belts, hoses, bearings and other components. Incorporate a regular inspection cycle for them all and prioritize the use of heavy-duty or enhanced performance alternatives where possible.



### Battery Reliability

Prolonged use, sulfation or degradation – especially in extreme temperatures or during weather events – can cause battery failure. Adopt a maintenance protocol with regular testing, real-time monitoring and the use of battery warming or cooling solutions to extend life expectancy.



### Coolant and Lubrication

Low levels or degradation of these fluids can lead to overheating or insufficient lubrication of engine parts. Implement automated monitoring for both coolant levels and oil integrity. For larger setups, consider oil analysis services to preemptively detect and address engine wear.



### Fuel Quality Control

Diesel fuel can degrade over time, while natural gas supply may be interrupted. Establish a strict regimen of fuel testing and treatment, incorporating fuel polishing and stabilizers into your maintenance plan.



### Severe Weather Damage

Floods, high winds and extreme climates can all lead to generator failure and physical equipment damage. Equip your generator with environmental defenses appropriate for your specific locale's risk profile, from flood barriers to wind-resistant enclosures and cooling systems for high-temperature zones.

## For Local Support

- Visit our [Generac Industrial Power Distributor Locator](#)
- Call us at **844-ASK-GNRC**
- Email [ASKGNRC@generac.com](mailto:ASKGNRC@generac.com)



# Essential Proactive Maintenance

Regular inspections and timely maintenance do more than just preserve the condition of your generator. They're fundamental to ensuring your business operates without disruption.

## Comprehensive Maintenance Program

- **Systematic Inspections** - Regular, thorough multi-point inspections should include visual checks and functional tests of electrical and mechanical systems.
- **Intelligent Diagnostics** - Advanced diagnostic tools can monitor current generator condition and predict potential failures.
- **Automated Monitoring** - Implement technology to continuously monitor the generator's health, alerting you to issues as they arise.

## Battery and Power Management

- **Battery Management** - Implement a robust battery management system with frequent testing and specific environmental controls to optimize battery life.
- **Load Testing** - Regularly perform load testing, adjusting for various operational scenarios to ensure consistent performance and reliability.
- **Control System Maintenance** - Maintain regular checks and updates on control systems to guarantee operational readiness.

## Fuel and Lubrication Integrity

- **Fuel System Maintenance** - Develop a routine for inspecting and treating fuel, including the use of fuel polishing systems, to ensure fuel remains clean and efficient.
- **Coolant and Lubrication Management** - Set up automated systems to monitor and maintain optimal coolant and lubrication levels, supplemented by regular quality checks of oil and coolant.

## Environmental Resilience

- **Environmental Protection** - Enhance physical and environmental protections for the generator based on geographic and climatic risks, reassessing and upgrading these measures annually.
- **Adapting to Climate** - Integrate environmental sensors for early warnings of conditions that may affect generator performance, adjusting maintenance to align with changing climate patterns.

## Component Lifecycle Management

- **Proactive Component Replacement** - Establish a replacement schedule for critical components such as belts, hoses and filters, replacing them preemptively to avoid unexpected failures.

These measures can greatly reduce the likelihood of generator failure. But partnering with our trained dealer network for regular professional servicing and use of OEM parts for replacements are key to long-term reliability. A proactive approach – combined with our around-the-clock support – forms the backbone of a resilient and robust emergency power strategy.

# Generator Maintenance Planning

Each step in our comprehensive maintenance framework below is crafted to enhance the reliability of your generator and safeguard your operations from unforeseen interruptions.

These essentials are the framework for a practical maintenance schedule, ensuring that you have the power you need, when you need it most.

Common Causes of Generator Failure and Preventative Actions		
Cause of Failure	Preventative Action	Frequency*
Dry, Cracking, and Deteriorating Belts and Hoses	Conduct a thorough visual inspection and replace any damaged components.	Every 3 to 6 months
Low or Dead Batteries	Perform battery tests and replace old batteries, consider weather-resistant enclosures.	Test twice a year, replace every 3-5 years
Low Coolant, No Coolant, or Lack of Oil	Check and replenish coolant and engine oil levels.	At least once a month
Lack of Fuel or Old/Bad Fuel	Inspect fuel quality and replace old/bad fuel, ensure a fresh supply is always available.	Inspect every 6 months, replace yearly or as needed
Weather Damage	Sample radiator coolant, ensure the generator is equipped with necessary starting aids, and consider protective covers/structures.	Sample every 3 months, more frequently in extreme temperatures

Common Causes Of Generator Failure and Preventative Actions		
Maintenance Action	Description	Frequency*
Conduct Visual Inspection of the Generator's Exterior	Check for any visible issues that might affect the generator's operation.	Weekly
Check For Leaks in the Generator's Fuel System	Ensure there are no leaks that could lead to fuel loss or potential fire hazards.	Weekly
Check the Oil Level	Do this before starting up the generator. If the generator is in continuous operation, check the oil levels at regular intervals.	Weekly
Start and Run the Generator	Run for 30 minutes in case the generator is not in regular use - this load test is to be done every week.	Weekly
Change Oil	Replace the oil after every 100 hours of generator operation.	100+ hrs of operation
Check The Generator's Exhaust System	Ensure that the exhaust does not have any blockages.	Monthly
Check the Cables and Battery	Make sure they are in good operating condition.	Monthly
Check the Generator's Ventilation System	Ensure there is proper ventilation. If the generator has coolant, check the coolant level and make sure there is adequate coolant in the chamber.	Monthly
Perform A Load Test	Perform a load test longer than the ones in the weekly check-ups. If the weekly load test is 30 minutes, the monthly load test should be at least an hour.	Monthly
Clean the Generator and the Surrounding Area	Keep the generator clean and clear of any debris.	Monthly
Change the Starter Plug and Air Filter	Regular replacement ensures optimal performance.	Monthly
Change Oil, Oil Filter, Air Filter, and Coolant	Replace these parts during the annual inspection.	Annually
Change and/or Top Up the Lubricant	Do this after inspecting its condition.	Annually
Check if the Transfer Switch is Working	Ensure it operates without fault.	Annually
Inspect the Complete Electrical System	This includes the battery.	Annually
Test the Auto Mode and Other Settings	Do this along with load tests. Ensure the generator can provide the full power you need from it.	Annually

*\*Please note that this maintenance schedule can vary based on the specific model of the generator and the conditions under which it operates. Always refer to your generator's operation and maintenance manual for specific instructions and recommendations.*

Reference Links: <https://limblecmms.com/blog/industrial-generator-maintenance> and <https://www.generac.com/Industrial/professional-resources/news-whitepapers/whitepapers/guide-to-generator-maintenance>

**For additional support, our dealer network simplifies service with 24/7 technical support and repairs. We also offer a range of genuine parts accessories, like filters, oil and batteries.**

# The Cost of Interrupted Operations and Extended Outages

Network downtime not only impacts sensitive data, the bottom line and supply chain – it shakes the foundation of customer and investor relationships. Erodes business reputation. And can lead to potential long-term damage to your brand’s public image.

According to NOAA, over the past 5 years weather and climate-related disasters cost the U.S. economy about \$100 billion per year. For 2024, the hurricane and tropical storm outlook should serve as a warning for all businesses to be ready – before the power goes out.

## Financial Loss

Every minute of downtime can equate to lost sales, especially in sectors like retail. And outages that exceed 48 hours are on the rise.

What’s more, the cost of downtime is escalating with enterprises potentially losing between \$1 million to more than \$5 million in a single hour of downtime – not including legal fees, fines or penalties that may be imposed.

## Data Loss

Storm power outages can cause key devices to shutdown unexpectedly, compromising or corrupting the integrity of critical electronic data. On average, a U.S. data center outage costs approximately \$14,056 per minute. For businesses experiencing extensive data loss it’s estimated that only 6% survive.

## Loss of Customer Trust

Whether due to a natural disaster or other factors, when a company’s electronic systems fail the natural customer response is to question the competency of the business itself. Outages – especially extended outages – can shake customer confidence and tarnish the brand, leading to a long-term decline in customer loyalty, retention and attraction.

## Employee Impact

In a severe weather event, your people – your most valuable asset – will have plenty on their minds outside of work. Including their own personal safety, the safety of their family and potential losses. Repeated disruptions and extended outages without a plan in place can erode employee morale, reduce productivity and potentially increase turnover rates.

## Damaged Equipment

A sudden or extended loss in power can cause long-term damage to your equipment, primarily from the electrical surge that occurs when power returns. The unanticipated cost to repair the equipment can have significant impact on a company’s financial viability.

## Regulatory and Compliance Risks

In some industries, outages may lead to failures in compliance with regulatory requirements. Non-compliance, especially in critical sectors, may result in legal repercussions and fines.

## Increased Liability

In situations where a business’s actions or non-actions – such as not having adequate backup systems – lead to third-party losses, they may be held liable.

## Sector-Specific Urgency

### Healthcare

While downtime costs for healthcare facilities eclipse \$8,500 per minute, the impact of power outages transcends financial loss by compromising patient care and safety.

### Food and Perishable Products

For businesses that handle perishable goods, power outages can lead to significant losses as products spoil without reliable refrigeration.

### High-Risk Sectors

Industries such as finance, government and retail face staggering power outage costs, at times exceeding \$5 million per hour of downtime.

### Strategic Service Level Agreements (SLAs)

As digital dependency grows, so does the need for stringent SLAs and adherence to regulatory standards. Downtime not only incurs higher costs but also risks regulatory penalties and customer dissatisfaction.

# Selecting the Right Backup Power

A backup generator can be your best safeguard against power loss from natural disasters, an aging electrical infrastructure and human error accidents.

## Single Unit or Modular Power System

Whether you require “off the shelf” generators or custom specifications, we offer both configured and standard gensets to suit diverse needs.

Our Modular Power Systems (MPS) technology simplifies the complexities of paralleling total power generators, eliminating the need for expensive and space-consuming traditional paralleling solutions. In fact, more electrical engineers are embracing the advantages of paralleled generators, including enhanced flexibility for scalability as power demands grows. Gaseous generators offer equivalent power output to larger gensets, with added benefits of redundancy, flexibility, expandability and reliability.

## Beyond Standby

Our turnkey solutions transform your generator system from a mere operating expense into an asset. Energy management plans empower businesses to utilize energy more efficiently and intelligently, resulting in reduced utility costs and a more dependable power solution.

## Stationary or Mobile

We specialize in designing systems tailored to meet specific needs, including considerations like electrical or fuel requirements. We also offer generators configured to meet noise regulations, NFPA standards or unique installation locations.

Flexibility in backup power location is becoming more important, with customers desiring the ability to connect and disconnect mobile generators from their facility’s electrical system. Mobile units offer easy relocation and can serve multiple facilities, providing cost savings. Stationary units can be added later to accommodate increased power demands.

## Choosing the Right Fuel Option

Diesel generators have long been the primary choice for power generation. But emerging alternatives are gaining traction due to smart grids, grid reliability and environmental regulations. Natural gas, dual-fuel or bi-fuel generator equipment offer reliability and lifecycle cost advantages for various backup power needs.







## After the Storm

Generac offers essential mobile equipment for disaster preparation and recovery, including mobile generators, light towers, and pumps for versatility and agility. Trailered mobile products can be swiftly deployed and relocated as needed, ensuring flexibility as situations evolve.

In flood mitigation efforts, the right pumping equipment is crucial. Our portable pumps, operating independently of the electrical grid, are indispensable for removing floodwaters – that can carry solid debris and pose health hazards – from critical infrastructure and maintaining sewage systems. With durable and rugged design, Generac trash pumps can also handle solids up to 3 inches in diameter.

# 2024 Hurricane Outlook

When it's your business on the line, understanding what extreme natural occurrences we're up against – and how they can impact your potential power supply – is crucial.

Typically, a normal hurricane season includes about 14 named storms. The 2023 hurricane season alone delivered:

- 20 named storms
- 7 storms reaching hurricane force
- 3 hurricanes turning into major hurricanes

In 2024, Colorado State University (CSU) Tropical Meteorology project team predicts the highest active Atlantic hurricane season since 1995, citing a likely transition from El Niño to La Niña that could yield:

- 23 named storms
- 11 storms that could become hurricanes
- Upwards of five storms that could reach major hurricane strength with sustained winds of 111 mph or greater.

## Is Your Business in a High-Risk Area?

While every mile of the U.S. Gulf and East Coast is vulnerable during hurricane season, some locations are more at risk of being hit in any given year.

The National Hurricane Center of the National Oceanic and Atmospheric Administration (NOAA) uses an analysis tool that predicts if a hurricane can be expected to pass within 50 nautical miles of a specific location.

According to their models, the areas with the highest return periods for a hurricane within the next 100 years (of any category) are coastal North Carolina, south Florida and southeast Louisiana, about every five to seven years.

Probabilities for at least one major hurricane landfall for 2024:

1. Entire continental U.S. coastline - 62% (average from 1880–2020 is 43%)
2. U.S. East Coast Including Peninsula Florida (south and east of Cedar Key, Florida) - 34% (average from 1880–2020 is 21%)
3. Gulf Coast from the Florida Panhandle (west and north of Cedar Key, Florida) westward to Brownsville - 42% (average from 1880–2020 is 27%)

Data source: CSU Tropical Meteorology Project Team

## Natural Disaster Impact

Immediate  
**40%**  
of small businesses  
won't reopen

One year later,  
**25%**  
more small businesses  
will close

Three years later,  
**75%**  
of businesses without a  
continuity plan will fail

Data source: Federal Emergency Management Agency (FEMA) and U.S. Department of Labor

# Develop a Plan and Take Action

## Identify Your Potential Risk

Support your business continuity after the storm with a Preparedness and Mitigation Project Plan. According to Ready (a U.S. government disaster preparedness website) the following steps can help organizations be more prepared to weather a hurricane, but to be ready to resume regular operations as quickly as possible.

1. Develop business continuity and crisis communications plans
2. Conduct an employee awareness campaign
3. Develop an employee sheltering/evacuation plan and include an emergency supply kit
4. Conduct an employee training session
5. Conduct a hurricane drill
6. Review insurance coverage

## Have Your Plan Approved

If you lease space or rent space, make sure your Preparedness and Mitigation Project Plan is approved by the building owner. Check with your local building department to secure necessary permits prior to performing any retrofitting or other activity.

Document your steps as instructed in the Preparedness and Mitigation Project Plan for staff, services, structure and surrounding spaces. Include documentation such as receipts, signed letters and photographs.

- Signatures
- Photographs
- Receipts
- Letters

## Hurricane Damage

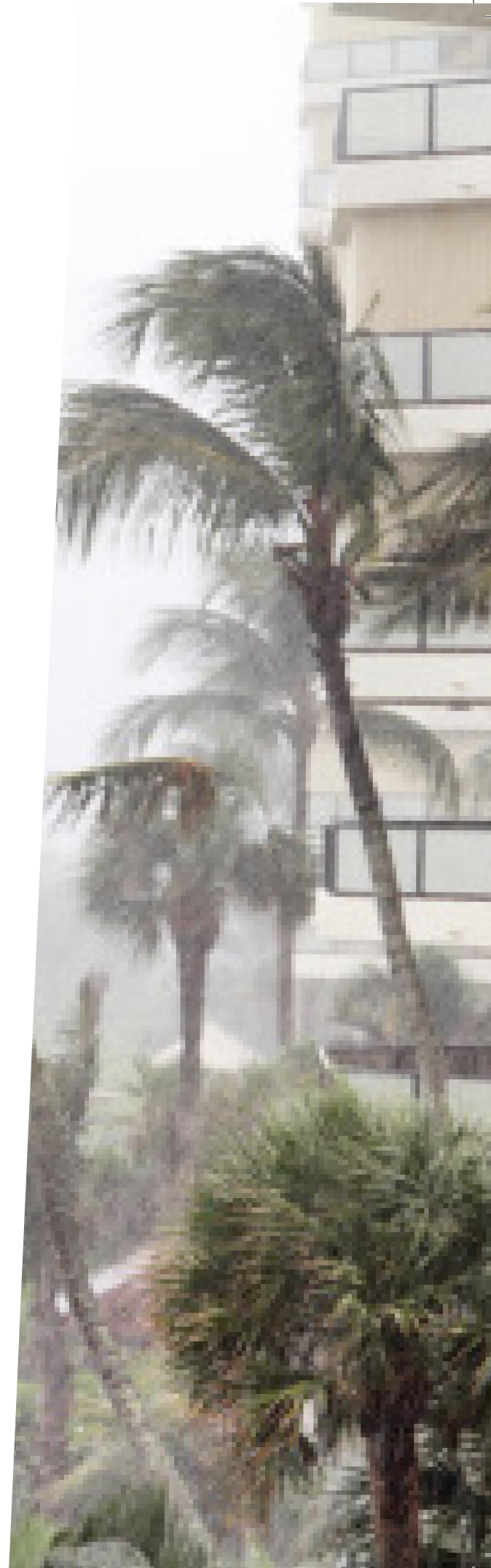
Hurricanes can affect inland areas more than

**100 miles**

One inch of water can cause up to

**\$25,000**  
of damage

*Data source: ready.gov*



# The Generac Advantage

At Generac, the things that make us unique aren't simply standalone attributes. They're the very foundation of a cohesive and unwavering commitment to excellence.

Each innovative product, every tailored solution and dedicated service support embodies our dedication to leadership, expertise and the responsibility we embrace. All as we spearhead the transition to more resilient, efficient and sustainable energy solutions.

## Innovation at Our Core

Leveraging the latest technology, we're constantly pioneering novel solutions to meet ever-evolving energy needs.

## Product Leadership

With superior quality and performance, we're the benchmark in the industrial power sector.

## Application Expertise

Deep industry knowledge provides expert guidance for every unique energy application, ensuring optimal efficiency.

## Energy Management

Our advanced energy management systems offer unprecedented control, savings and sustainability in power consumption.

## Solution Customization

We craft tailored solutions for each client, offering personalized power systems to meet specific needs.

## Value Engineering

Our engineering approach maximizes performance and reliability, while minimizing costs, delivering exceptional value-for-money.

## Unrivaled Partner Network

We're able to ensure global reach with local support through our extensive, diverse network of partners that's unmatched in the industry.

## Commitment to ESG

Generac's strong commitment to Environmental, Social and Governance (ESG) principles positions us as a responsible corporate citizen – and a sustainable choice for customers.

## Customer Support

We offer unparalleled customer service with comprehensive, round-the-clock support for seamless operations and peace of mind.



# Key Terminology

To properly prepare for a storm, it is important to understand the terms used by meteorologists. Below is a list of commonly used terminology:

**Advisory:** Official message issued by storm warning centers with details on location, intensity, movement and precautions for storms.

**Direct Hit:** Locations that experience the center and eye wall of a hurricane.

**El Niño, La Niña, ENSO:** El Niño and La Niña are warming and cooling phases of a recurring climate pattern in tropical Pacific (aka El Niño-Southern Oscillation or ENSO). The pattern shifts every two to seven years, creating disruptions in temperature, wind and precipitation. These changes affect the number and intensity of hurricanes.

**Flash Flood:** A rapid flooding in low-lying areas that may be caused by heavy rain as seen with many hurricanes and tropical storms.

**Flood Warning:** Issued when a flood is imminent or already happening.

**Hurricane/Typhoon/Cyclone:** A hurricane, typhoon and cyclone are all the same type of storm – a tropical cyclone that has reached 74 mph or more – just given different names based on where in the world it hits.

**Hurricane Eye:** The center of a hurricane.

**Hurricane Eye Wall:** Extreme winds surrounding the hurricane eye. An Extreme Wind Warning can be issued as the eye, or center of a hurricane, approaches.

**Hurricane Warning:** Issued 36 hours in advance of expected hurricane force winds (sustained at 74 mph). The warning may stay in effect if dangerously high water or dangerously high waves continue, even if winds dip below hurricane force.

**Hurricane Watch:** Issued 48 hours in advance of possible hurricane force winds (sustained at 74 mph or higher). Hurricane preparation becomes more difficult when winds reach tropical storm force.

**Indirect Hit:** Locations that do not experience a direct hit from a hurricane or tropical storm, but do experience the hurricane force winds.

**Landfall:** When the eye of the storm meets with the coastline.

**NOAA:** National Oceanic and Atmospheric Association, an agency within the Department of Commerce that works to understand and predict changes in climate, weather and oceans. The National Weather Service (NWS) is a branch under NOAA.

**RealImpact Scale:** Developed by AccuWeather and used for the first time during the 2019 hurricane season. Measures storms on a scale of one to five based on flooding, rain, high winds, storm surge and economic impact.

**Saffir-Simpson Hurricane Wind Scale:** Most popular and recognized hurricane rating system, created in the late 1960s and expanded in the 1970s. Measures hurricanes on a scale of one to five based on sustained wind speed.

**Storm Surge:** An abnormal rise in sea level due to a hurricane or other severe storm. This is often the greatest threat to loss of life and property damage.

**Storm Tide:** A combination of normal high tide and storm surge, measuring the total seawater level during a storm.

**Tornado Warning:** Due to the high winds and cyclical nature of hurricanes, tornadoes can form. A tornado warning may be issued before, during or after hurricanes. A warning means it may occur within 36 hours.

**Tropical Storm:** A tropical cyclone with maximum sustained wind speed ranging from 39 to 73 mph.

**Wind Shear:** Strong high-atmospheric winds typically found during El Niño that blows the tops off storms, decreasing the likelihood they turn into tropical storms or hurricanes.



# Hurricane Preparedness Checklist

## Protect Property

- Install hurricane shutters; evaluate the roof
- Understand your insurance coverage
- Check property and landscaping for any trees that should be trimmed, clear gutters, etc.
- Sandbag any area subject to flooding
- Anchor and brace any large furniture
- Relocate any valuable or fragile possessions
- Secure all utilities
- Secure electronics and other equipment with straps
- Turn off all the utilities prior to a hurricane making landfall

## Protect Important Documents and Information

- Designate important contacts to save
- Backup documents that are not easily reproduced
- Seal important documents in waterproof containers onsite
- Save all designated contact and documents in an alternate, accessible off-site location

## Keep a Preparedness Checklist

- Battery-operated radio or television
- Non-perishable three day food supply for you and your employees
- Three-day supply of water for you and your employees
- Coolers and containers for water and washing
- Blankets, pillow, cots and chairs
- First Aid Kit and first aid manual
- Flashlights, batteries, light-sticks
- Tool kit
- Camera and film for documenting damages
- Whistle
- Tarps, plastic bags, duct tape
- Cleaning supplies
- Fire extinguishers
- Generator
- Gas for vehicles, generators and other equipment
- Cash, ATM cards, credit cards, proper identification
- Emergency contact information

## Protect Digital Infrastructure:

- Implement cloud-based backup solutions for all data
- Ensure all data is backed up in at least two separate geographic locations
- Set up failover systems for essential digital services

**We're dedicated to offering customer and technical support, ensuring reliable service and peace of mind for your Generac products. Reach us anytime, 24/7, at **844-ASK-GNRC.****



## Reliable Support When You Need It Most

When the power goes out, business becomes significantly more difficult, regardless if it is during a severe thunderstorm or a hurricane.

As the backup power experts, we're here to provide a level of safety, security and peace of mind in the face of severe weather, unreliable grid services and any other reason power to your business may fail.

But we go beyond just providing the backup power solutions you need – we're here with customer and technical support for your Generac products 24/7, 365 days a year.

Call us at 888-GENERAC (888-436-3722) or visit [generac.com/service-support](https://www.generac.com/service-support).

**Please keep these contacts readily available during Hurricane Season:**

**FEMA**  
[www.fema.gov](https://www.fema.gov)  
800-621-3362

**Food Safety**  
[www.fsis.usda.gov](https://www.fsis.usda.gov)  
888-674-6854

**CDC Emergency  
Preparedness & Response**  
<https://emergency.cdc.gov>  
800-232-4636

**In case of an emergency, dial 911 for assistance.**

Generac Power Systems, Inc.  
S45 W29290 Hwy. 59, Waukesha, WI 53189

1-888-GENERAC (1-888-436-3722) | REV 06/2024

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