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Your Fuels Checklist For Hurricane Preparation For Business

If you work for any kind of municipal government or other large entity, you probably have a contingency plan in place specifying the actions to be taken to prepare for the arrival of a hurricane or other storm emergency. Of course, we're not here to supersede any of the requirements your area has – you're going to follow what you're required to do, and rightly so. Instead, we'd like to offer some additional suggestions for the fuels that are part of your emergency plan.

Reasons For Concern

Even though everyone thinks they're adequately prepared, there are factors that might prove these assumptions aren't as solid as they think:

TIME - It's clear that you don't get much warning with hurricanes, which is why they can catch even the best fuel administrators off-guard. The State of Florida estimated that a 12-hour notice is the best advance that people can expect. This is a troubling contrast to the fact that, even in a prepared state like Florida, some areas take 28 hours or more to execute essential response tasks like evacuations.

FREQUENCY – Trends and records of past storms show that most coastal states can expect to be exposed to a hurricane at least once every 25 years. And we all know what happened in 2004 and 2005.

LACK OF REAL PREPARATION – Over 80% of U.S. localities have a formal disaster plan on-hand. But an audit by the International City Management Association concluded that local governments continue to be surprised (by storms) despite this fact, yet often fail to improve their preparation plans even after a disaster has been experienced in their area. Why do they fail when they should know better? Most likely, it's due to a combination of a lack of relevant experience with the issue of disaster response, failure to learn from experience, lack of commitment to doing the work (which may not always have an immediate and visible payoff), and lastly, doing the wrong kind of planning (which may target the wrong areas).



Uncertainty: Another Reason For Concern

Hurricane season predictions for some years like 2016 have a large element of "we're not sure". A big factor in this is the unpredictability of certain weather patterns like El Nino and La Nina. Weather forecasters acknowledge that, for example, the 2016 hurricane season has the potential to be a lot worse than initially expected if the La Nina weather pattern comes into effect later in the summer. La Nina will dry out the Southeast, making hurricane formation much more likely.



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What About Your Disaster Plan for Fuels?

Let's focus on the last reason – doing the wrong kind of planning. Your plan likely has guidelines covering important areas like how often you have to meet with various individuals in the chain of command, where emergency vehicles have to be moved to (and at what time), guidelines for evacuating designated groups of people, and the assessment/allocation of available resources, both physical and human. Even if your disaster plan isn't as lengthy as, say, City of Miami's (48 page) novel, you should expect it to cover those kind of areas at a minimum.

But there's an elephant-sized fact still remaining in the room. In order to execute the steps dictated by the best-laid plans - for evacuations and the transferring equipment/supplies to needed destinations, and providing command centers with essential power, you have to have access to good fuel that works like it's supposed to, and works when you need it. If the fuel is bad, very little else in the plan is going to go as expected.

You don't want to be one of the groups that finds this out the hard way. Fuel-related surprises seem to follow every widespread disaster, and the results are never happy:

- **The 2003 Blackout** - hit a large part of the country and affected 50 million people. Fully 20% of emergency systems put into place specifically to provide power in such an emergency failed to work because the fuel contained therein didn't work.
- **Superstorm Sandy (2012)** – the well-publicized case of NYU's Langone Medical Center and Bellevue Hospital having to evacuate critical care patients because their back-up generator systems failed.
- **Hurricane Katrina** – when 80% of New Orleans wasn't being flooded by 20 feet of water, a significant number of backup generators simply failed to work, due to lax maintenance.



How Not To Be A Statistic

Consider these suggestions to supplement your emergency preparation plan, if your plan doesn't already include some or all of these steps. These steps will ensure that the fuels you rely on to power your backup systems will do their job in your hour of greatest need. The recommendations are grouped according to the decreasing time frame leading up to storm landfall.



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5 Days to 72 Hours Before Landfall: Pre-Storm Activities

- Make sure fuel deliveries are scheduled to ensure fuel storage tanks are full as needed
 - There's less guarantee you'll be able to get fuel the closer landfall-time comes
- Perform water housekeeping procedures and test stored fuel for bacterial content
 - Microbial test strips take several days to work, so this should be done as early in the process as possible, even earlier than 5 days if you have enough warning
- Treat stored fuel with biocide if microbial tests come back positive
- Top off the fuel in all essential vehicles
- Test and fuel backup generators



72-48 Hours Before Landfall: Pre-Hurricane Watch Activities

Hurricane watches most commonly start 48 hours before expected landfall.

- Perform fuel filtration for infested fuel with positive microbial tests as per earlier
- Run refueled generators after filling to ensure proper functioning with new fuel
- Top off fuel tanks and service all vehicles, portable and emergency generators, pumps, compressors and ventilators.



36 Hours Up To Landfall

- Test backup generators one final time
- Fuel all essential vehicles as needed
- Store and/or secure an extra supply of fuel if needed

Storm Landfall: The First 24 Hours

If you've followed the previous steps, you shouldn't have to worry about fuel issues during that first 24-hour period when you've got plenty of other things to worry about.



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Ongoing Preparations When All Things Are Quiet

When it comes to fuels, a lot of the success that you'll have in implementing the above steps relies on groundwork you can lay during the "times of plenty" – when everything is fine and no storm is on the horizon. The best thing you can do on an ongoing basis *is control the water buildup in your storage system and keep the microbes at bay*. You likely have water remediation steps you take regularly, but what about the microbes?

Microbial growth in fuel tanks definitely falls under the category of "better safe than sorry". It's much less stressful (and much less expensive) to prevent microbial growth in fuel tanks than to try eradicate an active infestation after it's established. Especially when the infestation spreads to all areas of your fueling system.

Beyond proper water control steps like draining, the best thing you can do to prevent microbial growth is to *periodically treat your tank system with a biocide*. Once a quarter is a good interval, though if your housekeeping measures aren't the greatest, it's in your best interests to do it sooner, say every 2 month or 6 weeks.

Biocide treatment is an irreplaceable step if you have any hope to keeping microbial fuel problems at bay. Even mechanical fuel polishing and tank cleaning are not enough by themselves – it is an industry standard expectation that you can go from a completely clean tank to signs of microbial activity and corrosion damage in as little as two months. And that's starting from a completely clean tank, too.

Biocides are highly regulated and very concentrated – a typical maintenance treat rate would only be 1:10,000, meaning you could treat a 5,000 gallon fuel storage system with only half a gallon of biocide. Such a low treat rate makes maintenance treatment very cost effective – you might only pay \$100-\$150 at the most to ensure that a 5,000 gallon fuel system stays problem free.

If you want to ensure the best chance of success with your fuels in the quiet times when there's no storm expectation, periodic treat with a biocide is your best protection.

Choose The Right Partner

Sometimes, it's helpful to have a partner that can guide you through this process, especially the process of ongoing preventive treatment of stored fuels. The best partner is your fuel supplier who, in an ideal world, would be equipped with the knowledge and the solutions to help you ensure you're doing what's needed to minimize the chance of problems down the road.

If you have to look beyond your fuel supplier, the right partner should combine the right amount of experience with access to the right solutions (both for testing and prevention), and should bring both of those to the table with a philosophy of ensuring that their priority is to turn you into the expert.





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Those are key elements of Bell Fuel & Tank Services, another option aimed at keeping you in the best position possible for emergency readiness. Bell Fuel & Tank Services sets itself apart in the area of fuel preventive maintenance by employing a hybrid solution approach – fuel testing to define the exact problem and the right solutions, mechanical fuel processing to take out what chemical treatments aren't able to, and the most effective fuel chemical treatments to cover what fuel polishing isn't able to do, either.

Given that the vast majority (>90% in states like Florida) of fuel storage tanks have existing fuel microbial infestations, it's more likely than not that you'll need someone in the near future who knows how to help you solve your problems and take away your headaches. If this sounds like you, give us a call (407-831-5021) or email and we'll be happy to tell you more.

In Summary

Don't forget, this is what you want to do.

- 5 days to 72 hours before: confirm scheduled fuel deliveries
- 5 days to 72 hours before: water housekeeping procedures and microbial tests. Treat with biocide if needed
- 5 days to 72 hours before: Load-test generators to confirm running ability
- 72 to 48 hours before: Run re-fueled generators after filling
- 72 to 48 hours before: Filter infected fuel after biocide treatment
- 36 hours: Fuel essential vehicles as needed
- Ongoing: Control water buildup
- Ongoing: Treat with biocide at regular intervals
- Ongoing: Consider a reputable partner to assist you

