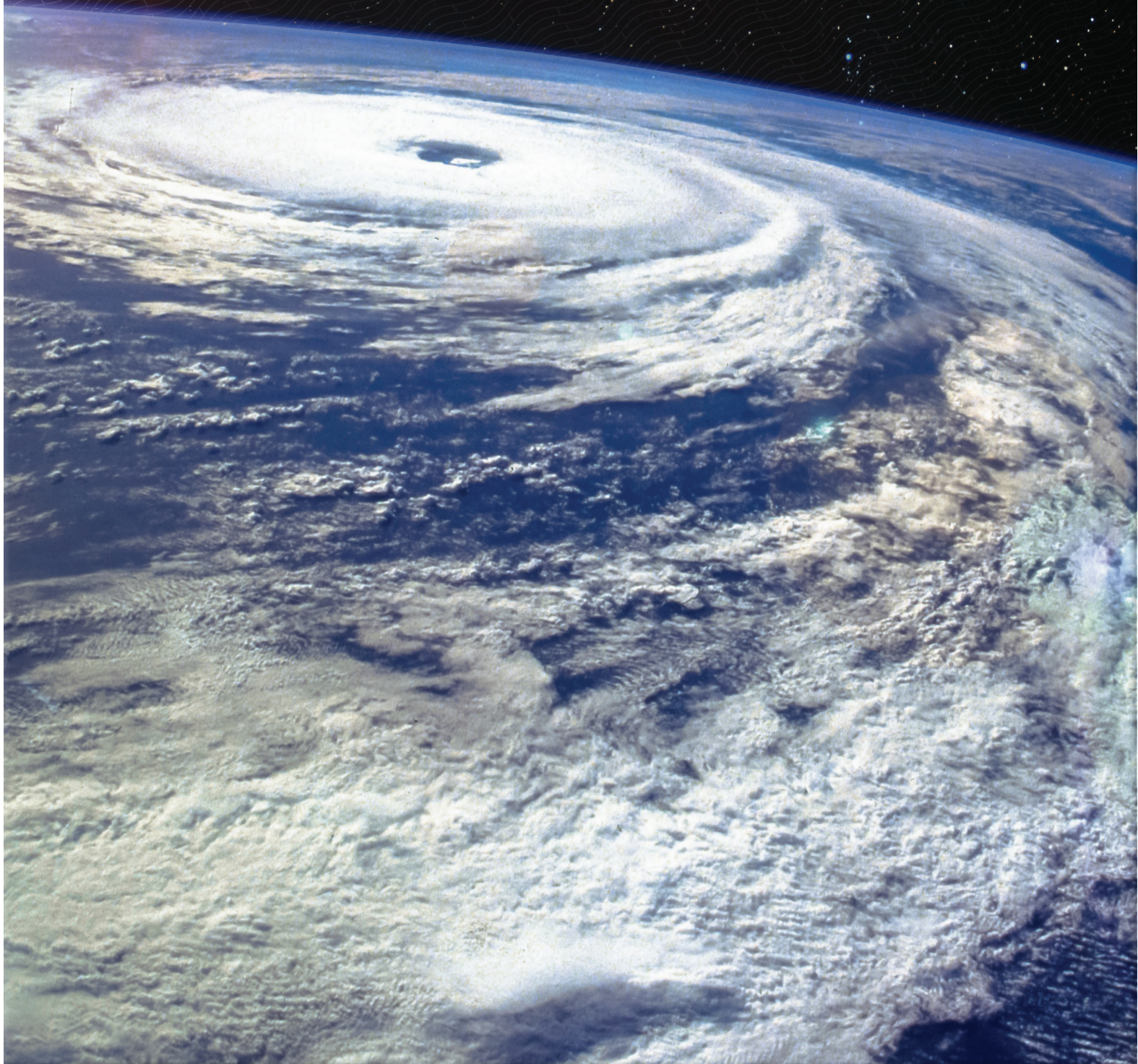




# Hurricane Security Operations







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# Introduction

There were numerous lessons learned by those in industry who were directly or indirectly affected by the hurricanes that hit the U.S. Gulf Coast during the summer and fall of 2005. As one security manager said, "We hoped we were as prepared as possible, but as with any emergency, there are always going to be areas for improvement." Indeed, after Hurricane Katrina, many companies reported being better prepared for Hurricane Rita.

The purpose of this White Paper is to synthesize and share the experiences and insights of industry in order to inform us and improve our preparations for the hurricane seasons to come. The paper is divided into two sections: pre-hurricane planning (which constitutes the major focus of this paper) and recovery operations.

AFPM offers this paper as recommendations. The Association is not undertaking to establish requirements or standards for employers, owner companies, or contracting companies. Nothing herein takes the place of advice from a company's own management or that will cover every situation. Ultimately, it is the responsibility of the owner or operator to adopt those measures that best meet the needs of a given company or facility.

We envision this to be a living document which can be updated periodically, and we welcome your comments and suggestions.

## I. Pre-Hurricane Planning

While the best prepared plans are subject to change in a crisis situation, any plan is better than no plan. The more planning you do prior to hurricane season, the better prepared you will be in addressing future hurricanes or other crises. Remember the 5 P's: Prior Planning Prevents Poor Performance!

Your plan should include a detailed list of standard preparations that can be made before hurricane season. It should also itemize specific steps to be taken in anticipation of an imminent hurricane. It should address expectations of operational, logistical and personnel needs during and following the event.

With your plan in hand, educate management, your security department, employees and contractors on hurricane preparation. Reevaluate and periodically update its various elements. Consider preparing and distributing to all employees a short manual with the relevant information, and briefing staff and contractors immediately before the event.

The bottom line is that all your plans, crisis preparations, emergency actions and recovery measures need to be focused on three fundamental goals: protecting the viability of your facility, enabling its rapid return to operation, and providing for your employees.

The following critical elements should be addressed in your hurricane crisis management plan:

- Emergency Management Team
- Facility Security
- Logistics
- Communications
- Personnel Support
- Government and Community Relations

## A. Emergency Management Team

The first step in preparing your facility and personnel for a hurricane crisis is to establish an emergency management team. The team should be chaired by a senior official of the facility or at the corporate level. Team members should represent each critical operating unit of your facility, including security, human relations, purchasing, contracting and government affairs. Team members or their deputies should be present for all meetings and conference calls before, during and after the crisis.

The mission of the Emergency Management Team is to 1) develop a comprehensive, dynamic, crisis management plan; 2) identify, assign and supervise personnel responsible for implementing crisis operations; 3) arrange for necessary material support that the plan anticipates will be needed; and 4) evaluate actions needed to address unanticipated consequences of the hurricane.

## B. Facility Security

Your crisis management plan should do the following:

### 1. Identify critical sites that require security and determine the degree of security required.

If you contract out your security, make sure in advance that the contract firm has a hurricane operations contingency plan to bring in security officers from outside the affected area that will ensure your facility will be provided the security personnel it will need. Talk with your security contractor immediately prior to a hurricane event to confirm contractual obligations. Even if assured that the contract firm can support your operations in a crisis situation, it would be wise to establish a back-up plan involving a third-party security provider or emergency response team from other company facilities.

Corporate Security should plan for supporting their affected facility(s) with security personnel from other facilities or from corporate. Plan for the contingency that the Facility Security Officer (FSO) may become unavailable following the storm. The Alternate FSO should be fully trained and available to assume all duties of the FSO, especially in crisis situations such as hurricanes. In addition, Corporate Security should identify FSOs or Alternate FSOs from other facilities that could become familiar with the operations of a facility in hurricane threat areas and be prepared to rapidly deploy to and assume the duties of the FSO.

Do not plan on National Guard or local law enforcement protection for your facility. They will be involved in rescue operations and other health and safety issues within the community. You must plan to be self-sufficient in virtually all aspects of security.

### 2. Ensure that all security and key operations personnel who will need to get to the facility have company-issued badges and appropriate authorizations.

Following a hurricane, some roads may be impassable, electricity and traffic signals may be out, and law enforcement may establish a curfew, all severely limiting the ability of employees and contractors to reach your facility. Security and vital operations personnel who have company-issued security badges are more likely to be recognized by local law enforcement as having the need and clearance to be on the road under post-hurricane conditions.

Prepare and disseminate authorization letters on company letterhead that will identify to law enforcement that the holder of the letter is a vital employee or contractor or is transporting relief supplies or personnel to a national critical infrastructure site (i.e., your refinery) and request that the holder be allowed to proceed without delay to the facility. Coordinate with the state office of homeland security or the state and local police to get the appropriate verbiage to include in your authorization letters.

Advise employees and contractors holding authorization letters that they are to be used only while on facility-related business. If the area is under a curfew, public safety officials will usually allow an authorized person to travel only to the facility and not to that person's home. During the 2005 hurricanes, some employees reportedly were under the mistaken assumption they could use the authorization letters to get back to their homes.

**3. Detail the steps to be taken to secure critical sites, gates, and equipment against the hurricane.**

- Identify those posts to be manned by security guards and make appropriate arrangements.
- Secure all gates with chains and padlocks.
- Remove gate mirrors.
- Cover gate controls and cameras with heavy plastic and secure with duct tape.
- Relocate electronic equipment from guard kiosks to the security office. Computers and other electronic equipment that cannot be relocated should be unplugged, wrapped in heavy plastic and secured with duct tape to protect them from flooding and blowing rain.
- The first floors of buildings should be considered to be in the flood zone. Files and equipment on the first floor should be moved to higher ground, if possible.
- Anticipate that there will be blowing rain under and around doors and windows as well as glass broken by flying debris. Relocate personnel, equipment and paper away from doors and windows.
- Signage or other nonsecure items outside should be removed and stored in a secure location to prevent them from becoming flying debris.

**4. Itemize and stock the supplies and equipment (including back-up generators) that will be needed to secure your facility before and during the hurricane, and to assist in recovery operations.**

For the purposes of securing the physical structure of your facility against a coming hurricane, consider stocking in advance adequate supplies of basic items such as plywood, plastic sheeting, duct tape, drills, hammers, nails, screws, batteries and fuel.

With the advent of a hurricane, business owners and residents in the projected landfall zone will be rushing to acquire these same items, leading to potential shortages and price hikes. Having these items on hand in advance will eliminate last-minute scrambling.

## C. Logistics

Comprehensive pre-hurricane logistical planning is essential to ensuring you have the supplies and equipment needed to secure your facility against the anticipated physical effects of a coming hurricane. Personnel who will remain on-site during the hurricane should have the accommodations, supplies, equipment and communications capabilities to ride out the storm and address emergencies. Sound pre-hurricane logistical planning and preparations will help you and your employees and contractors to undertake more quickly and effectively post-hurricane recovery operations.

## 1. Pre-hurricane security supplies and equipment.

- **Duct tape and plastic sheeting** to waterproof equipment, and seal and reinforce windows and doors.
- **Plywood, hammers, electric drills, nails and screws** to seal and reinforce windows and doors.
- **Chains and padlocks** (with duplicate sets of keys) to secure gates and equipment.
- **Back-up generators.** Even before your facility is hit by the full force of a hurricane, you may lose electricity. This could impede your final hurricane preparations. You should identify in advance key operational and command and control sites, including hydraulic and electric gates, which must be supported by an emergency back-up electric power supply, and purchase or contract for the generators to ensure the continued operation of those sites. Your purchasing or procurement department should have a master contract in place for the generators needed. You may also consider purchasing or contracting for a number of smaller portable generators that could be used personally by employees.
- **Lighting.** Battery-operated lighting and spare batteries for those areas that will not be served by back-up emergency power generators.
- **Spare parts and equipment.** Be prepared to replace everything from broken security cameras to punctured tires. "Wet vacs" connected to common garden hoses can evacuate water from critical sites. Oscillating or box fans will be needed to dry them out.

## 2. Pre-hurricane transportation preparations.

- **Fuel.** All vehicles, private and company, should have a full tank of fuel and satisfactory fluid levels before the onset of a hurricane. Make provision for storing adequate supplies of gasoline and diesel so that recovery operations can be accomplished without relying on outside sources of fuel. Consider stocking five-gallon fuel cans and having a dedicated tanker truck. Citizens and businesses within the anticipated hurricane zone likely will be lining up at gas stations to top off their tanks before the event and vying for limited fuel supplies thereafter. You don't want your essential preparations, employees and recovery operations hamstrung by long fuel lines or shortages.
- **Anticipate your post-hurricane vehicle needs.** High-clearance vehicles such as pickup trucks can be used to rescue and relocate displaced employees and their families. Assess the adequacy of your facility fleet and, if appropriate, the availability of employees' private vehicles to supplement your fleet in the immediate aftermath of a hurricane. Shuttle buses may be needed to transport employees between the facility and temporary off-site housing. Refrigeration trucks and relief supply trucks from non-affected facilities will be critical.
- **Stock spare automotive equipment.** In the days immediately following a hurricane, you won't want to spend time tracking down replacement vehicle parts to ensure your facility fleet is operational. Lay in a basic store of essential automotive supplies to keep your fleet and any private vehicles pressed into service up and running. Some common-sense items to include are car batteries, motor oil and other critical fluids, tires and belts.
- **Magnetic signs.** Have magnetic signs with the company logo, facility name and emergency phone number that can be attached to vehicles to identify them as being on official facility business. This type of signage was very helpful following the 2005 hurricanes in assisting facility personnel to transit impacted areas.
- **Authorization letters and permits.** Prepare authorization letters on company letterhead to identify to law enforcement that the holder is transporting relief supplies or personnel. Coordinate in advance with the state office of homeland security or the state and local police to understand their requirements for post-hurricane travel authorizations, and to get the appropriate wording to include in your authorization letters and permits.

- **Convoy security.** Plan to provide security for convoys carrying relief supplies and personnel to your facility following a hurricane event. Work with corporate officers to make arrangements for the security personnel you anticipate will be needed and determine whether they should be armed. Depending on the severity of the hurricane, off-duty law enforcement in the affected area may or may not be available.

During the 2005 hurricanes, some companies purchased firearms to provide increased protection for their employees, contractors, and supply vehicles. Be aware of the permit and training requirements incumbent upon the facility if you choose this option.

- **Government diversion of vehicles and supplies.** Anticipate that, in a post-hurricane emergency situation, federal, state and local governmental officials may seek to divert and utilize vehicles and supplies intended for your facility. Apparently Louisiana law grants a parish president authority to commandeer what it needs in a declared disaster situation. Companies reportedly had trucks diverted by the Federal Emergency Management Agency, resulting in supplies needed for the refinery being used instead by community or emergency responders.

In advance of a hurricane, it is essential that you, your management team and corporate officers understand the disaster-related laws and procedures of your state and locality. Prepare a plan and protocols for responding to governmental efforts to commandeer your supplies and vehicles. Brief your drivers on how to respond should they face this situation.

### **3. Pre-hurricane personnel preparations.**

This sub-section deals with the logistical considerations of providing for the physical well-being of your personnel during a hurricane. Thoughts and recommendations related to assisting personnel after a hurricane are included in the "Personnel Support" section of this paper below at page 12.

You will need to determine the number of employees and contractors who will be on-site during a hurricane event and who will be needed to assist in immediate post-hurricane recovery operations. What pre-hurricane planning and preparatory work is expected of them? What will their postings or responsibilities be? To whom, how and when should they report before, during and after the crisis?

- Identify, fortify (if necessary) and furnish the location(s) in which ride-out personnel will be housed. Provide sufficient cots, bedding, chairs, tables, toilets and showers, and battery-operated lighting to accommodate your ride-out team.
- Ensure personnel have flashlights and immediate access to basic equipment and supplies such as duct tape, plastic sheeting, hammers, nails, wet weather gear, boots, and gloves to enable them to address any breaches or threats to the security of the facility during the storm.
- Provide primary and back-up communications equipment, spare parts, supervisor contact information and communications procedures.



## D. Communications

Reliable communications are vital to ensuring completion of pre-hurricane preparations, addressing emergencies, and coordinating and conducting recovery operations. You should assume that landline phones will go down early in a hurricane and that cell phone networks will become overloaded, providing you and your employees with little or no service. Without electricity, computer-to-computer email will not be available. Plan for these eventualities by establishing a multi-modal communications network and ensuring that your employees and contractors are versed on communications expectations and procedures.

### 1. Equipment

- **Walkie-talkies.** Equip key personnel with walkie-talkies. Stock an adequate supply of batteries. Establish one or more walkie-talkie base stations to receive reports and respond to requests or emergencies.
- **Cell phones.** Having multiple cell phone providers increases the odds that one will be operational following a crisis. A sole source provider will likely not be sufficient, especially if that provider is completely out of service in the affected area.
- **Satellite phones.** Consider purchasing or contracting in advance for a mobile satellite telephone base station and the number of satellite phones you expect will be necessary to keep connected. Portable satellite phone systems can be reliable, but you must be outdoors for them to work, unless you have installed a remote external antenna. Bear in mind that satellite phones require a certain amount of training to operate so, if you decide to go this route, identify primary and back-up operators and get them trained in advance.
- **PDF devices.** PDFs and other internet-based communications can provide an additional communications option that may be more reliable than cell phones. Evaluate which of your personnel should be equipped with BlackBerry™-type devices.

### 2. Contact Information and Procedures

In addition to planning for and acquiring the required communications devices, you need to know how to contact your facility executives, key personnel, employees and contractors.

- **Periodically update personnel contact information.** Immediately prior to hurricane season, ask all executives and employees to review and update their personal contact information. This should include home address; home phone number; cell phone number; and email address.
- **Prepare paper copies of updated personnel rosters and contact information prior to each hurricane event.** You or other personnel may be tasked to locate and verify the health and safety of an employee who has not reported to work after a hurricane and you may not be able to access the employee's information electronically.
- **Considering using a "hotline" concept where employees can call in and report their status.** Selected management can also call in or email the hotline to request the status on certain employees or business units.
- **Key contacts.** Update and distribute a list containing the relevant contact information for key corporate, governmental, community and business (such as utilities) officials.

## E. Personnel Support

### 1. Company rescue plans and emergency services

Brief employees on what post-disaster efforts the company will take for their safety and well-being. During the 2005 hurricanes, company-led rescue operations were very effective in locating and rescuing displaced employees and their families. Make sure your employees understand the company's limitations with respect to search and rescue as well as the company's disaster communications policies.

You may want to consider preparing and storing hurricane kits at each company facility for quick distribution after a hurricane or transport to other facilities. These kits should contain basic welfare supplies to support employees and their families with three days of MREs ("meals ready to eat"), a minimum of one gallon of drinking water per day per employee, as well as basic first aid items, blankets, and toiletries.

### 2. Accommodations for Displaced Employees and Their Families

Plan for the contingency that employees and their families may seek help and refuge in the facility.

Your management, employees and contractors need to know the answers to the following kinds of questions: What emergency efforts will the company endeavor to undertake to locate and if, necessary, rescue displaced personnel and their families? What provisions, including lodging, food, medical, communications and transportation will be available? How and when they will be paid, and will bonuses or overtime will be awarded?

During the 2005 hurricanes, the almost complete destruction of the social infrastructure rendered emergency housing plans that relied on hotels useless. Consider multiple scenarios and housing options, including hotels, large facilities such as gymnasiums, mobile homes and tents. One company supplied three 16,000 square foot, air-conditioned tents to accommodate their personnel. Arrange in advance for contractors outside the area to supply hot meals and fresh foods such as produce and milk. Ensure that vital functions at employees' accommodations will be supported by emergency generators.

Plan to have on-site medical personnel (facility, corporate or contracted) to provide first aid, administer immunizations and treat ailments. Do not ignore your employees' psychological and emotional needs. Post-traumatic stress symptoms may begin to show on some of the workers within days of a hurricane. Establish contracts with employee assistance providers to bring in counselors for employees and family members. All this will be critical in maintaining employees and contractors on-site.

Facility human resources staff will quickly be overwhelmed following a crisis. Arrange for company response teams to support and relieve your HR staff. Incrementally increase staffing based upon identified needs.

### 3. Money

Banks require utilities and personnel to operate. Both were sometimes unavailable in the aftermath of the 2005 hurricanes. ATM machines could not function and payroll checks could not be processed.

The company therefore may need to arrange to operate a cash payroll for employees. Company finance officers may have to travel to a bank out of the area, retrieve a significant amount of cash, transport the cash back to the facility, and establish a pay system to provide cash to the employees in order for them to survive in a temporary cash-only economy. Armed security is required 24/7 for the cash payroll.

Establish provisions for expeditious distribution of emergency funds. This includes providing for emergency response teams who are authorized to quickly meet with employees, assess their needs and distribute funds.

Consider establishing an Authorized Fund Expenditure (AFE) account that will allow for the accounting and tracking of all emergency expenditures.

During the 2005 hurricanes, some companies gave, and have promised to give in the future, bonuses and interest-free loans for employees and contractors who stay on the job through a disaster. Bonuses are an incentive for ensuring future employee and contractor participation in hurricane response activities. Set your policy and brief employees and contractors in advance.

## F. Government and Community Relations

Invest your time and that of your key employees in relationship building. Establish and maintain communications with community leaders, local law enforcement, utilities, representatives of relevant federal, state and local government agencies, and Congress. These will go a long way toward helping your facility and employees get back on their feet after a hurricane. Positive personal relationships and community good will built before and reinforced after a disaster will serve all parties well.

Assistance from and cooperation with government and community leaders can be valuable in a crisis situation, but do not assume it will be forthcoming. Some government representatives promised support during the 2005 hurricane season, but for a variety of reasons could not follow through. In the face of the near total breakdown of the social infrastructure after the 2005 hurricanes, industry found it had to be a self-supporting operation. However, personal contacts did help facilities get needed support.

### 1. General government and community relations issues.

Prepare as best you can for you and your employees to navigate the bureaucratic waters. Get to know in advance key governmental officials, community leaders and utility representatives. Have candid discussions about hurricane plans and response contingencies. What will you need? What will they need? What can you provide each other? Exchange contact information, including cell phone numbers and email addresses, and update them each year, especially before the hurricane season. Support their causes and efforts as appropriate.

Develop a basic in-house understanding of federal, state and local laws, regulations and procedures related to a disaster. Specifically, evaluate in advance governmental transportation permit requirements and emergency procedures, and search and rescue plans, and how they may affect company activities.

### 2. Local government and law enforcement relations.

Coordinate with local government and law enforcement, and prepare and disseminate in advance acceptable permits or letters of authorization that will advise local law enforcement and public safety personnel that the holder is on official company or facility business. This will help critical employees and vehicles pass during a curfew or through an affected area.

During the 2005 hurricanes, even though facilities had made advance arrangements with local police to permit supply vehicles to transit the area to the refinery, the vehicles were nevertheless sometimes stopped by the National Guard manning the checkpoints or by other officers from outside the jurisdiction. One company had its vehicles taken by parish officials and then spray-painted to indicate it was a county emergency vehicle. State police also diverted tractor trailer trucks full of equipment and supplies. There was poor communication between all of the emergency responders.

If possible, after anticipating the needs of your employees and facility recovery operations, build into your logistics additional emergency supplies of water, fuel, and food that can be made available to law enforcement, governmental entities, utilities and the community after a disaster. After the 2005 hurricanes, refineries assisted utility companies and water plants with fuel for their trucks. This helped the refineries in getting their own operations restarted in a shorter time. Similarly, being prepared to refuel the vehicles of

government officials and key businesses such as utilities may help you resolve unexpected issues affecting the ability of your facility and employees to cope with the post-hurricane situation, such as transiting an affected area or being out after an authorized curfew.

Your willingness to provide support beyond the needs of your facility and employees also promotes good community relations. There were times following the 2005 hurricanes when refineries opened their doors to feed people in the community even though their initial plan was to serve only company employees and contractors. That basic humanitarianism and the good will it generated within the immediate community will not soon be forgotten.

### **3. State government relations.**

Some reported that, during the 2005 hurricane season, it was easier to work through state government agencies than attempting to obtain support from the federal government. When the National Guard, for example, was unable to provide housing support to industry, personal contacts with state government officials produced some positive results.

Be prepared to refuel state emergency vehicles, and to provide food and water to their occupants.

### **4. Federal government relations.**

As the White House explained in its Federal Response to Hurricane Katrina: Lessons Learned, “[T]he Federal government did not adequately coordinate its actions with State and local protection and restoration efforts,” and “Federal, State, and local officials responded to Hurricane Katrina without a comprehensive understanding of the interdependencies of the critical infrastructure sectors in each geographic area and the potential national impact of their decisions.”

For instance, it was a major problem getting some government officials to understand the importance of providing continued protection for refineries once they restored operations. Because the National Guard’s primary mission is to provide rescue and recovery services for the public, it was difficult, even impossible, to get National Guard support even for interim security operations at refineries.

The federal government has vowed to do better next time. But bear in mind that requesting any government support following a hurricane crisis can be a major bureaucratic challenge (see “Recovery Operations”). Having good relationships with – and accurate contact information for – key federal officials (i.e., FEMA, DHS, National Guard, Coast Guard) as well as members of Congress can be helpful in avoiding or circumventing problems as well as securing meaningful, timely information and assistance following a hurricane. One company, working through its government affairs office in Washington, was able to secure help from the local U.S. Congressman with getting operations restoration workers past government check points.



## II. Recovery Operations

Great! You survived the hurricane as a member of the Ride-Out Crew, but before you get your “I Survived” tee-shirt, there are recovery operations to conduct. This phase of the operation is the most trying because you are tired, under stress, without adequate facilities, and also concerned about your own family, personal possessions, friends, and co-workers.

Once the danger has passed, your primary tasks should be determining the well-being of your employees, ensuring vital security, and assessing the damage to your facility.

### A. Assessment

1. **Personnel.** Determine the well-being of your personnel and their ability to perform recovery activities. If they have been briefed in advance about their expected post-crisis duties and have physically weathered the storm, you should have a prepared, initial field team to immediately undertake post-crisis operations.

Employees should report to the facility when conditions are safe and should be ready to begin recovery operations. For those you do not hear from within the pre-designated company timeframe, charge any available investigative or other security staff to use company resources such as the facility phone tree and vehicles as necessary to help locate employees and their family members who may have been displaced by the storm. This is a huge human capital issue. Company-led rescue operations resulted in finding, rescuing and relocating to safety many employees and their families following the 2005 hurricanes.

2. **Facility security.** Deploy security guards to critical gates, perimeter fencing and facilities that need to be secured and made operational immediately following the hurricane.
3. **Damage survey.** Assess and document all damage to or flooding of your facility and perimeter. Report immediately all security-compromised and hazardous situations to corporate, local law enforcement and appropriate governmental entities.

### B. Immediate Repairs and Personnel Operations

1. **Security repairs.** As soon as prudent after the storm, replace essential security devices such as cameras and lighting. Restore and reattach equipment to guard stations. Relocate or install emergency power generators to support vital recovery operations.
2. **Post-crisis personnel operations.** Erect, install and get operational on-site and off-site housing, infrastructure and basic supply distribution services. Ensure that your personnel, wherever they are temporarily housed, have adequate security. Follow through on your plans to provide secure transportation for employees to and from the facility. You may need to make gasoline available for employees to get to and from work.

## C. Repairs and Government Assistance

- 1. Critical repairs.** Estimate the steps and associated costs to make critical repairs. Knowing federal, state and local laws and regulations will help in evaluating possible financial assistance options available to you.
- 2. Governmental assistance.** Requesting government support following a hurricane crisis can be a major - and potentially disappointing - bureaucratic challenge.

For example, during the 2005 hurricane season, in order to get FEMA support, you could not make your request directly to the state or federal level authority; you first had to submit the request to the local emergency response office. If this office approved the request, it had to forward it to the state for approval. The state could then choose to fill the request, take no action on it or pass it to FEMA for handling if the state determined that it did not have the resources to support the request. By the time a request finally made its way to FEMA, several days may have transpired. Then FEMA needed additional time to respond to the request.

Be aware that, generally speaking, the response from FEMA to a request for assistance ("RFA") was, in effect, that by law their mission is to provide support to private citizens, not to for-profit businesses.

In the immediate aftermath of the 2005 hurricanes, DHS was asked, and it promised, to provide satellite photos, but the 3-4 day delay in finally obtaining them reduced their usefulness. As a result, you may want to consider establishing contracts with aviation services to take aerial photographs of your facility and surrounding areas. DHS has promised to address this concern for the 2006 hurricane season.

## D. We Survived!

**"Thank You" event for personnel.** Host a luncheon or dinner for all employees and their families to thank them for their cooperation, efforts and perseverance. Consider having the CEO and other senior management there to serve the food. Provide music, games for children, and awards of "I Survived!" tee-shirts and caps to employees and contractors.

# Final Thoughts

As discussed above, you and your colleagues have identified the following key elements to consider in hurricane crisis management operations:

- Comprehensive planning: think ahead, think outside the box and don't assume anything
- Robust logistical preparations
- Multiple redundancies and back-up plans
- Self-sufficiency: don't depend on anyone or anything else
- People first: your employees and their families
- Take charge

As industry continues to learn about hurricane operations, it should continually document lessons learned and best practices in disaster readiness. During and after Hurricanes Katrina and Rita, AFPM was able to help facilitate the flow of information between various member companies. Do not hesitate to use us as a resource. As you work to more fully develop your contingency plans and as you endure the hurricanes during the years to come, please forward any of your thoughts and lessons learned to the American Fuel & Petrochemical Manufacturers, Attn: Jeff Gunnulfsen at [JGunnulfsen@afpm.org](mailto:JGunnulfsen@afpm.org).

# Addendum

## Sample Materials Department Hurricane Supplies - Warehouse Items

Stock Number	Commodity	Current Minimum	Current Maximum	Quantity Blocked
12116	Lantern/6 Volt	74	149	300
12117	6-Volt Battery	179	357	700
12118	AA Battery	718	1,436	2,500
12119	C-Battery	93	185	200
12120	1.5V Alkaline Battery	516	1,033	400
12121	9-Volt Battery	150	300	400
74715	Batteries for New Radios	40	60	50
103784	Batteries for New Type Radios	10	30	20
12132	Motorola Radio Batteries	40	60	100
13085	Moister Displacer	76	152	200
13087	Contact Cleaner	241	483	300
13318	Rubber Boots Size 9	61	100	40
13319	Rubber Boots Size 10	81	140	70
13320	Rubber Boots Size 11	61	120	60
13321	Rubber Boots Size 12	51	100	50
13322	Rubber Boots Size 13	20	34	40
13323	Gloves: 12" Large Rubber/Pair	241	480	50
13523	Small Rainsuit	21	40	100
13524	Medium Rainsuit	101	200	150
13525	Large Rainsuit	151	250	250
13526	X-Large Rainsuit	73	120	450



Stock Number	Commodity	Current Minimum	Current Maximum	Quantity Blocked
13527	XX-Large Rainsuit	25	48	200
103255	XX-Large Tall Rainsuit	5	15	40
103256	XXX-Large Rainsuit	5	15	40
103257	XXX-Large Tall Rainsuit	5	15	40
103174	Small Trench Coat	1	3	5
103175	Medium Trench Coat	2	4	10
103176	Large Trench Coat	5	8	10
103177	X Large Trench Coat	5	8	10
103178	XX Large Trench Coat	8	10	10
103179	XXX Large Trench Coat	5	8	8
103180	XXXX Large Trench Coat	2	4	5
11367	Venetian Blind Cord	31	60	60
11369	1/4 Manila Rope/Ft.	1,251	2,500	2,000
11371	3/8 Nylon Rope-600/rol	9,601	19,200	70,000
11372	1/2 Nylon Rope-600/rol	9,601	19,200	70,000
13529	Tarpaulin Fire Resistant	31	60	100
13532	Burlap Bags	600	1,600	2,000
13794	Black Polyethylene	41	160	150
13795	Clear Polyethylene	51	100	100
13804	2" Masking Tape	601	1,800	400
13806	Duct Tape	601	1,200	900
48433	Insect Killer	241	480	250
48434	Off Repellent	81	192	300
48611	Tire Repair Plug	7	12	5

Stock Number	Commodity	Current Minimum	Current Maximum	Quantity Blocked
44431	Tire Tube Patch	11	20	5
44432	Tire Tube Repair Fluid	2	5	2
13703	Drum Liner	51	110	100
13586	Sheet, Oil Sorbent	141	200	300
13588	Boom, Sorbent	101	140	150
17000	Coalescer: Prefilter	108	216	500
80031	Upper DCU Manhole Gasket	125	200	75
80764	Bottom DCU Gasket, w/tabs	125	200	75
48344	Broom: Push,18" Wd	301	600	50
48361	Squeegee: 18" Wd Blade Size	21	40	50
48365	Handles: Floor Broom/Squeegee	401	900	100
13505	Briefs, Small, Cotton	21	40	20
13506	Briefs, Medium, 34" to 36", Cotton	401	800	80
13507	Briefs, Large, 38" to 40", Cotton	481	960	80
13508	Briefs, X-Large, Cotton	151	300	40
13509	Shirt: T, Small, Cotton	21	40	20
13510	Shirt: T, Medium, Cotton	61	120	60
13511	Shirt: T, Large, Cotton	480	960	100
13512	Shirt: T, X-Large, Cotton	401	800	100
13513	Shirt: T, XX-Large, Cotton	51	100	40
13514	Socks: Tube	1,001	1,840	250
75033	Ladies, Small, Cotton Panties	12	24	5
75034	Ladies, Medium Cotton Panties	12	24	5
75035	Ladies, Large, Cotton Panties	12	24	5
75036	Ladies, X-Large, Cotton Panties	12	24	5

Stock Number	Commodity	Current Minimum	Current Maximum	Quantity Blocked
75037	Ladies, Medium Sports Bra	6	12	3
75038	Ladies, Large Sports Bra	6	12	3
80915	Nalco EC9019A Anti-Foam	4,000	5,000	5,000
101796	Ladies, X-Large Sports Bra	6	12	3
101797	Ladies, X-Large Sports Bra	6	12	3

### Box Location

Box Pallet Number	Rack Number
1	MRG08A
2	MRG08A
3	MRG09A
4	MRG09A
5	MRG10A
6	MRG10A
Trailer #1	230-775
Trailer #2	235-719



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